PHILIPS



OUTPUT PENTODE for battery receivers
PENTHODE DE SORTIE pour des appareils batterie
ENDPENTODE für Batteriegeräte

Heating: direct by battery current, rectified A.C. or D.C.; series or parallel supply

Chauffage: direct par courant batterie, C.A. redressé ou C.C.; alimentation en série ou en parallèle

Heizung: direkt durch Batteriestrom, gleichgerichteten Wechselstrom oder Gleichstrom; Serien- oder Parallelspeisung

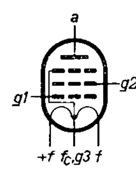
Parallel supply; alimentation en parallèle; Parallelspeisung

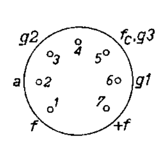
V_f =		1,4 V¹)	1,4 V²)	2,8 V³)
I_f =		50 mA	100 mA	50 mA
Pins Broches Stifte	neg.	5	5	1
	pos.	7	1+7	7

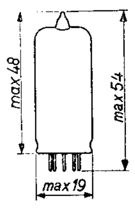
Series supply; alimentation en série; Serienspeisung

V_f =		1,3 V¹)	1,3 V²)	2,6 V³)
Pins Broches Stifte	neg.	5	5	1
	pos.	7	1+7	7

Dimensions in mm
Dimensions en mm
Abmessungen in mm







Base, culot, Sockel: Miniature

Capacitances
Capacités
Kapazitäten

C_{g1} = 5,0 pF
C_a = 3,8 pF
C_{ag1} < 0,40 pF

¹), ²), ³) see page 10; voir page 10; siehe Seite 10

PHILIPS



OUTPUT PENTODE for battery receivers
PENTHODE DE SORTIE pour des appareils batterie
ENDPENTODE für Batteriegeräte

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Chauffage: direct par courant batterie,C.A. redressé ou C.C.; alimentation en série ou en parallèle
Heizung: direkt durch Batteriestrom, gleichgerichteten Wechselstrom oder Gleichstrom; Serien- oder Parallelspeisung

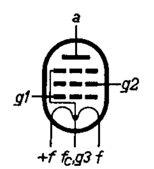
Parallel supply; alimentation en parallèle; Parallelspeisung

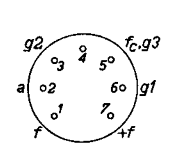
V_f =		1,4 V[1])	1,4 V[2])	2,8 V[3])
I_f =		50 mA	100 mA	50 mA
Pins Broches Stifte	neg.	5	5	1
	pos.	7	1+7	7

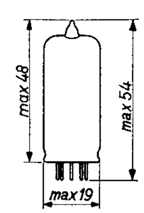
Series supply; alimentation en série; Serienspeisung

V_f =		1,3 V[1])	1,3 V[2])	2,6 V[3])
Pins Broches Stifte	neg.	5	5	1
	pos.	7	1+7	7

Dimensions in mm
Dimensions en mm
Abmessungen in mm







Base, culot, Sockel: Miniature

Capacitances Capacités Kapazitäten	C_{g1}	=	5,0 pF
	C_a	=	3,8 pF
	C_{ag1}	<	0,40 pF

[1]),[2]),[3]) see page 2; voir page 2; siehe Seite 2

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Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

V_f = 1,4 V[1]); I_f = 50 mA; pins, broches, Stifte 5-7

V_a	= 90	86[7])	120	[8])113	V
V_{g2}	= 90	86	120	113	V
V_{g1}	= -5,5	-4,5	-8,5	-7,5	V
I_a	= 4,0	4,5	5,0	5,0	mA
I_{g2}	= 0,8	0,9	1,0	1,0	mA
S	= 1,0	1,0	1,0	1,0	mA/V
μ_{g2g1}	= 7,2	7,2	7,3	7,3	
R_i	= 200	180	200	180	kΩ
R_a	= 20	20	20	20	kΩ
W_o (d = 10%)	= 170	150	290	250	mW
V_i (d = 10%)	= 4,1	3,9	5,1	5,1	V_{eff}
W_o (I_{g1}=+0,3μA)	= 180	160	350	300	mW
d (I_{g1}=+0,3μA)	= 13	12	15	14,5	%
V_i (W_o = 50 mW)	= 1,8	1,8	1,7	1,7	V_{eff}

Operating characteristics class A push-pull
Caractéristiques d'utilisation classe A push-pull
Betriebsdaten Klasse A Gegentakt

V_f = 1,4 V[4]); I_f = 2x50 mA; pins, broches, Stifte 5-7

V_a	= 90	85[7])	120	[8])113	V
V_{g2}	= 90	85	120	113	V
V_{g1}	= -5,5	-5,4	-8,5	-7,5	V
I_a	= 2x4	2x3,25	2x5	2x5	mA
I_{g2}	=2x0,8	2x0,7	2x1,0	2x1,0	mA
R_{aa}	= 28	28	28	28	kΩ
V_i	= 4,8	4,8	7,5	6,6	V_{eff}
W_o	= 340	320	750	650	mW
d	= 8	8	10	10	%
V_i (W_o = 50 mW)	= 1,45	1,5	1,35	1,35	V_{eff}

[1]),[4]) see page 10; voir page 10; siehe Seite 10
[7]) " " C; " " C; " " C
[8]) " " G; " " G; " " G

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Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

V_f = 1,4 V[2]); I_f = 100 mA; pins, broches, Stifte 5-(1+7)

V_a	= 90	86	120	113	V
V_{g2}	= 90	86	120	113	V
V_{g1}	= -5,1	-4,5	-8,1	-7,1	V
I_a	= 8,0	8,0	10	10	mA
I_{g2}	= 1,8	1,8	2,3	2,3	mA
S	= 2,0	2,0	2,0	2,0	mA/V
μ_{g2g1}	= 7,3	7,3	7,3	7,3	
R_i	= 110	110	110	110	kΩ
R_a	= 8	8	8	8	kΩ
W_o (d = 10 %)	= 310	280	550	500	mW
V_i (d = 10 %)	= 4,1	4,0	5,0	4,9	Veff
W_o (I_{g1} = +0,3 µA)	= 340	290	680	570	mW
V_i (I_{g1} = +0,3 µA)	= 4,5	4,1	6,6	5,9	Veff
d (I_{g1} = +0,3 µA)	= 12	11	15	14	%
V_i (W_o = 50 mW)	= 1,35	1,35	1,3	1,3	Veff

[1]) One filament section
Une partie du filament
Ein Glühfadenteil

[2]) Two filament sections in parallel
Deux parties du filament reliées en parallèle
Zwei Glühfadenteile parallelgeschaltet

[3]) Two filament sections in series
Deux parties du filament reliées en série
Zwei Glühfadenteile in Serie

[4]) With cold tube; avec tube froid; bei kalter Röhre

PHILIPS 

Operating characteristics class B push-pull
Caractéristiques d'utilisation classe B push-pull
Betriebsdaten Klasse B Gegentakt

V_f = 1,4 V[4]); I_f = 2x50 mA; pins, broches, Stifte 5-7

V_a	=	90		82[9])		V
V_{g2}	=	90		82		V
V_{g1}	=	-8,5		-7,5		V
R_{aa}	=	28		28		kΩ
V_i (W_o = 50 mW)	=	2,5		2,6		V_{eff}
V_i	=	0	7,2	0	6,4	V_{eff}
I_a	=	2x1,0	2x3,2	2x1,0	2x3,0	mA
I_{g2}	=	2x0,2	2x1,05	2x0,2	2x1,0	mA
W_c	=	0	300	0	265	mW
d	=	-	3,5	-	4	%

Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

V_f = 1,4 V[2]); I_f = 100 mA; pins, broches, Stifte 5-(1+7)

V_a	=	90	86[10])	120	[11])113	V
V_{g2}	=	90	86	120	113	V
V_{g1}	=	-5,1	-4,5	-8,1	-7,1	V
I_a	=	8,0	8,0	10	10	mA
I_{g2}	=	1,8	1,8	2,3	2,3	mA
S	=	2,0	2,0	2,0	2,0	mA/V
μ_{g2g1}	=	7,3	7,3	7,3	7,3	
R_i	=	110	110	110	110	kΩ
R_a	=	8	8	8	8	kΩ
W_o (d = 10%)	=	310	280	550	500	mW
V_i (d = 10%)	=	4,1	4,0	5,0	4,9	V_{eff}
W_o (I_{g1}=+0,3μA)	=	340	290	680	570	mW
V_i (I_{g1}=+0,3μA)	=	4,5	4,1	6,6	5,9	V_{eff}
d (I_{g1}=+0,3μA)	=	12	11	15	14	%
V_i (W_o = 50 mW)	=	1,35	1,35	1,3	1,3	V_{eff}

2), 4) See page 10; voir page 10; siehe Seite 10
9) " " D; " " D; " " D
10) " " J; " " J; " " J
11) " " N; " " N; " " N

Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

V_f = 2,8 V[3]); I_f = 50 mA; pins, broches, Stifte 1-7

V_a	=	90	86	120	113 V
V_{g2}	=	90	86	120	113 V
V_{g1}	=	-4,2	-4,3	-8,1	-7,2 V
I_a	=	8,0	7,0	9,0	9,0 mA
I_{g2}	=	1,7	1,5	1,8	1,8 mA
S	=	2,0	1,9	2,0	2,0 mA/V
μ_{g2g1}	=	7,3	7,3	7,3	7,3
R_i	=	120	120	120	120 kΩ
R_a	=	10	10	10	10 kΩ
W_o (d = 10 %)	=	280	250	500	420 mW
V_i (d = 10 %)	=	3,8	3,7	4,8	4,4 V_{eff}
W_o (I_{g1} = +0,3 μA)	=	290	270	620	525 mW
V_i (I_{g1} = +0,3 μA)	=	4,0	4,0	6,6	6,1 V_{eff}
d (I_{g1} = +0,3 μA)	=	12	11,5	17	16 %
V_i (W_o = 50 mW)	=	1,35	1,40	1,35	1,35 V_{eff}

Limiting values
Caractéristiques limites
Grenzdaten

V_a	= max.	150 V
V_a (V_i = 0 V)	= max.	180 V
V_a	= max.	200 V [4])
W_a	= max.	1,2 W
V_{g2}	= max.	150 V
V_{g2} (V_i = 0 V)	= max.	180 V
V_{g2}	= max.	200 V [4])
W_{g2}	= max.	0,45 W
I_k	= max.	6 mA [1])
I_k	= max.	12 mA [2])
I_k	= max.	11 mA [3])
R_{g1}	= max.	1 MΩ
V_{g1} (I_{g1} = +0,3 μA)	= max.	0 V

[1])[2])[3])[4]) See page 2; voir page 2; Siehe Seite 2

Operating characteristics class A push-pull
Caractéristiques d'utilisation classe A push-pull
Betriebsdaten Klasse A Gegentakt

V_f = 1,4 V[5]; I_f = 2x100 mA; pins, broches, Stifte 5-(1+7)

V_a	= 90	85[10]	120	[11]113	V
V_{g2}	= 90	85	120	113	V
V_{g1}	= -5,1	-5,2	-8,1	-7,1	V
I_a	= 2x8	2x6,5	2x10	2x10	mA
I_{g2}	= 2x1,8	2x1,4	2x2,3	2x2,3	mA
R_{aa}	= 14	14	14	14	kΩ
V_i	= 4,4	4,5	6,8	5,9	Veff
W_o	= 650	550	1300	1160	mW
d	= 10	10	10	10	%
V_i (W_o = 50 mW)	= 1,0	1,0	0,95	0,95	Veff

Operating characteristics class B push-pull
Caractéristiques d'utilisation classe B push-pull
Betriebsdaten Klasse B Gegentakt

V_f = 1,4 V[5]; I_f = 2x100 mA; pins, broches, Stifte 5-(1+7)

V_a	= 90		82[12]		V
V_{g2}	= 90		82		V
V_{g1}	= -9,8		-8,3		V
R_{aa}	= 14		14		kΩ
V_i (W_o = 50 mW)	= 2,0		2,0		Veff
V_i	= 0	8	0	6,6	Veff
I_a	= 2x1,5	2x6,3	2x1,5	2x5,25	mA
I_{g2}	= 2x0,32	2x2,25	2x0,32	2x1,75	mA
W_o	= 0	580	0	445	mW
d	= -	5	-	4	%

5) See page 10; voir page 10; siehe Seite 10
10) " " J; " " J; " " J
11) " " N; " " N; " " N
12) " " K; " " K; " " K

Operating characteristics class B push-pull
Caractéristiques d'utilisation classe B push-pull
Betriebsdaten Klasse B Gegentakt

V_f = 1,4 V[5]; I_f = 2x100 mA: pins, broches, Stifte 5-(1+7)

V_a	=	120		108[13])		V
V_{g2}	=	120		108		V
V_{g1}	=	-13,7		-12,2		V
R_{aa}	=	14		14		kΩ
V_i (W_o = 50 mW)	=	2,4		2,5		V_{eff}
V_i	=	0	11	0	10	V_{eff}
I_a	=	2x1,5	2x9	2x1,5	2x8	mA
I_{g2}	=	2x0,32	2x3,1	2x0,32	2x2,6	mA
W_o	=	0	1200	0	900	mW
d	=	-	5	-	5	%

V_a	=	150[14])		V
V_{g2}	=	150		V
V_{g1}	=	-17,4		V
R_{aa}	=	12		kΩ
V_i (W_o = 50 mW)	=	2,3		V_{eff}
V_i	=	0	13,3	V_{eff}
I_a	=	2x2,0	2x12,5	mA
I_{g2}	=	2x0,42	2x4,4	mA
W_o	=	0	2150	mW
d	=	-	4,5	%

5) See page 10; voir page 10; siehe Seite 10
13) " " 0; " " 0; " " 0
14) " " R; " " R; " " R

Operating characteristics class AB push-pull
Caractéristiques d'utilisation classe AB push-pull
Betriebsdaten Klasse AB Gegentakt

V_f = 1,4 V[5]); I_f = 2x100 mA; pins, broches, Stifte 5-(7+1)

V_{ba}	=	120[13])		V
V_{bg2}	=	120		V
Rk	=	470		Ω[15])
Raa	=	14		kΩ
V_i (W_o = 50 mW)	=	1,2		Veff
V_i	=	0	9,9	Veff
I_a	=	2x5,7	2x7,65	mA
I_{g2}	=	2x1,25	2x2,9	mA
W_o	=	0	900	mW
d	=	-	5	%

Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

V_f = 2,8 V[3]); I_f = 50 mA; pins, broches, Stifte 1-7

V_a	=	90	86[16])	120	[17])113	V
V_{g2}	=	90	86	120	113	V
V_{g1}	=	-4,2	-4,3	-8,1	-7,2	V
I_a	=	8,0	7,0	9,0	9,0	mA
I_{g2}	=	1,7	1,5	1,8	1,8	mA
S	=	2,0	1,9	2,0	2,0	mA/V
μ_{g2g1}	=	7,3	7,3	7,3	7,3	
R_i	=	120	120	120	120	kΩ
R_a	=	10	10	10	10	kΩ
W_o (d = 10%)	=	280	250	500	420	mW
V_i (d = 10%)	=	3,8	3,7	4,8	4,4	Veff
W_o (I_{g1}=+0,3μA)	=	290	270	620	525	mW
V_i (I_{g1}=+0,3μA)	=	4,0	4,0	6,6	6,1	Veff
d (I_{g1}=+0,3μA)	=	12	11,5	17	16	%
V_i (W_o = 50 mW)	=	1,35	1,40	1,35	1,35	Veff

[3]), [5]), [15]) See page 10; voir page 10; siehe Seite 10
[13]) " " O; " " O; " " O
[16]) " " U; " " U; " " U
[17]) " " Y; " " Y; " " Y

Operating characteristics class A push-pull
Caractéristiques d'utilisation classe A push-pull
Betriebsdaten Klasse A Gegentakt

V_f = 2,8 V[6]); I_f = 2x50 mA; pins, broches, Stifte 1-7

V_a	=	90	85[16])	120	[17]) 113	V
V_{g2}	=	90	85	120	113	V
V_{g1}	=	-5,2	-4,8	-8,2	-7,2	V
I_a	=	2x6	2x5,5	2x8	2x8	mA
I_{g2}	=	2x1,3	2x1,2	2x1,8	2x1,8	mA
R_{aa}	=	16	16	14	14	kΩ
V_i	=	4,8	4,3	6,9	6,0	V_{eff}
W_o	=	550	500	1200	1000	mW
d	=	10	10	10	10	%
V_i (W_o = 50 mW)	=	1,1	1,1	1,05	1,05	V_{eff}

Operating characteristics class B push-pull
Caractéristiques d'utilisation classe B push-pull
Betriebsdaten Klasse B Gegentakt

V_f = 2,8 V[6]); I_f = 2x50 mA; pins, broches, Stifte 1-7

V_a	=	90		82[18])		V
V_{g2}	=	90		82		V
V_{g1}	=	-8,8		-7,6		V
R_{aa}	=	14		14		kΩ
V_i (W_o = 50 mW)	=	2,25		2,3		V_{eff}
V_i	=	0	7,6	0	6,4	V_{eff}
I_a	=	2x1,5	2x5,75	2x1,5	2x5,25	mA
I_{g2}	=	2x0,32	2x1,7	2x0,32	2x1,5	mA
W_o	=	0	530	0	420	mW
d	=	-	4	-	3,5	%

[6]) See page 10; voir page 10; siehe Seite 10
[16]) " " U; " " U; " " U
[17]) " " Y; " " Y; " " Y
[18]) " " V; " " V; " " V

Operating characteristics class B push-pull
Caractéristiques d'utilisation classe B push-pull
Betriebsdaten Klasse B Gegentakt

V_f = 2,8 V[6]); I_f = 2x50 mA; pins, broches, Stifte 1-7

V_a	= 120		108[19])		V
V_{g2}	= 120		108		V
V_{g1}	= -13		-11		V
R_{aa}	= 14		14		kΩ
V_i (W_o = 50 mW)	= 2,4		2,4		V_{eff}
V_i	= 0	10	0	9	V_{eff}
I_a	= 2x1,5	2x8,5	2x1,5	2x7,5	mA
I_{g2}	= 2x0,32	2x3,0	2x0,32	2x2,4	mA
W_o	= 0	1100	0	850	mW
d	= -	6	-	4	%

V_a	= 150[20])		V
V_{g2}	= 150		V
V_{g1}	= -16,8		V
R_{aa}	= 14		kΩ
V_i (W_o = 50 mW)	= 2,4		V_{eff}
V_i	= 0	13	V_{eff}
I_a	= 2x2,0	2x11,5	mA
I_{g2}	= 2x0,47	2x4,3	mA
W_o	= 0	2000	mW
d	= -	4,5	%

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[6]) See page 10; voir page 10; siehe Seite 10
[19]) " " Z; " " Z; " " Z
[20]) " " AC; " " AC; " " AC

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Operating characteristics class AB push-pull
Caractéristiques d'utilisation classe AB push-pull
Betriebsdaten Klasse AB Gegentakt

V_f = 2,8 V[6]); I_f = 2x50 mA; pins, broches, Stifte 1-7

V_{ba}	=	120[19])		V
V_{bg2}	=	120		V
R_k	=	470		Ω[15])
$R_{aa\sim}$	=	14		kΩ
$V_i (W_o = 50mW)$	=	1,3		V_{eff}
V_i	=	0	9,7	V_{eff}
I_a	=	2x5,3	2x7,5	mA
I_{g2}	=	2x1,1	2x2,6	mA
W_o	=	0	850	mW
d_{tot}	=	-	5	%

Limiting values
Caractéristiques limites
Grenzdaten

V_a	= max.	150	V
$V_a (V_i = 0\ V)$	= max.	180	V
V_a	= max.	200	V[21])
W_a	= max.	1,2	W
V_{g2}	= max.	150	V
$V_{g2} (V_i = 0\ V)$	= max.	180	V
V_{g2}	= max.	200	V[21])
W_{g2}	= max.	0,45	W
I_k	= max.	6	mA[1])
I_k	= max.	12	mA[2])
I_k	= max.	11	mA[3])
R_{g1}	= max.	1	MΩ
$V_{g1} (I_{g1} = +0,3\mu A)$	= max.	0	V

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1)2)3)6)15)See page 10;voir page 10;siehe Seite 10
19) See page Z;voir page Z;siehe Seite Z
21)With tube cold;avec tube froid;bei kalter Röhre

[1]) One filament section
Une partie du filament
Ein Glühfadenteil

[2]) Two filament sections in parallel
Deux parties du filament connectées en parallèle
Zwei Glühfadenteile parallelgeschaltet

[3]) Two filament sections in series
Deux parties du filament connectées en série
Zwei Glühfadenteile in Serie

[4]) One filament section of each valve.
Filaments of both valves in parallel.

Une partie du filament de chaque tube. Les filaments des deux tubes connectés en parallèle.

Ein Glühfadenteil jeder Röhre.
Die Glühfäden beider Röhren parallelgeschaltet.

[5]) Four filament sections in parallel.
Les quatre parties des filaments connectées en parallèle
Vier Glühfadenteile parallelgeschaltet.

[6]) Two filament sections of each valve in series.
Filaments of both valves in parallel.

Deux parties du filament de chaque tube connectées en série. Filaments des deux tubes connectés en parallèle.

Zwei Glühfadenteile beider Röhren in Serie.
Die Glühfäden beider Röhren parallelgeschaltet.

[15]) R_k is taken up in the negative lead of the H.T. supply. It is assumed that an additional current of 5 mA from the valves preceding the push-pull stage also flows through R_k.

R_k est connecté dans le conducteur négatif de l'alimentation haute tension. Il est supposé qu'un courant additionnel de 5 mA des tubes précédents l'étage finale traverse cette même résistance.

R_k ist in der negativen Leitung der Hochspannungsspeisung geschaltet. Es wird angenommen dass ein zusätzlicher Strom von 5 mA der der Endstufe vorangehenden Röhren durch diesen Widerstand fliesst.

PHILIPS

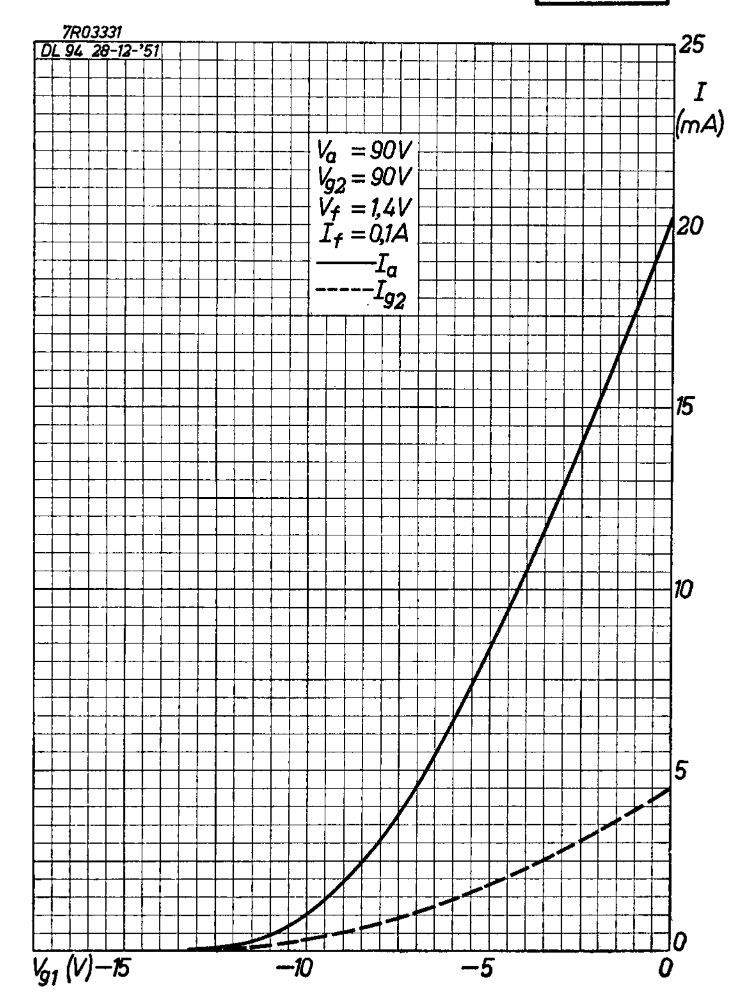


4.4.1952

A

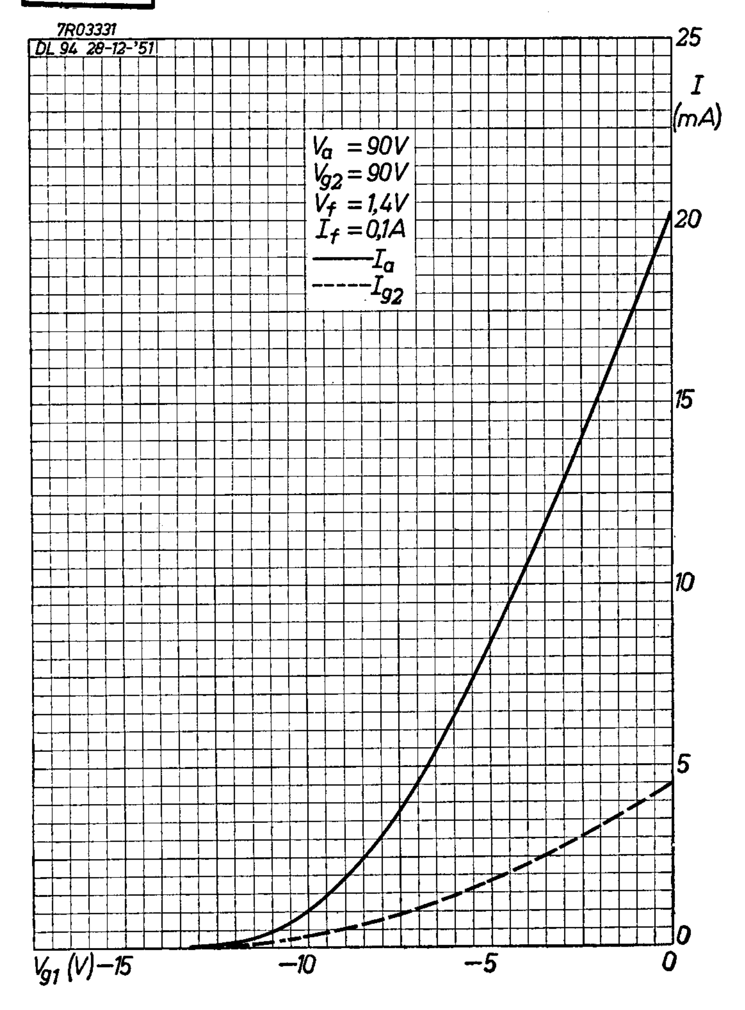
PHILIPS

DL 94

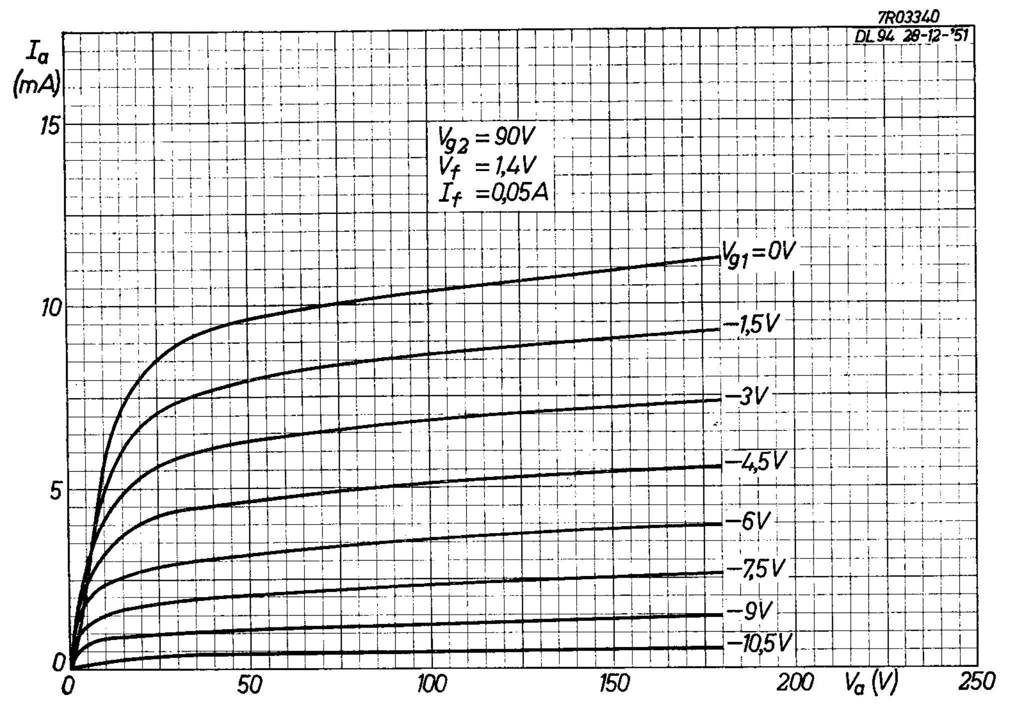


DL 94

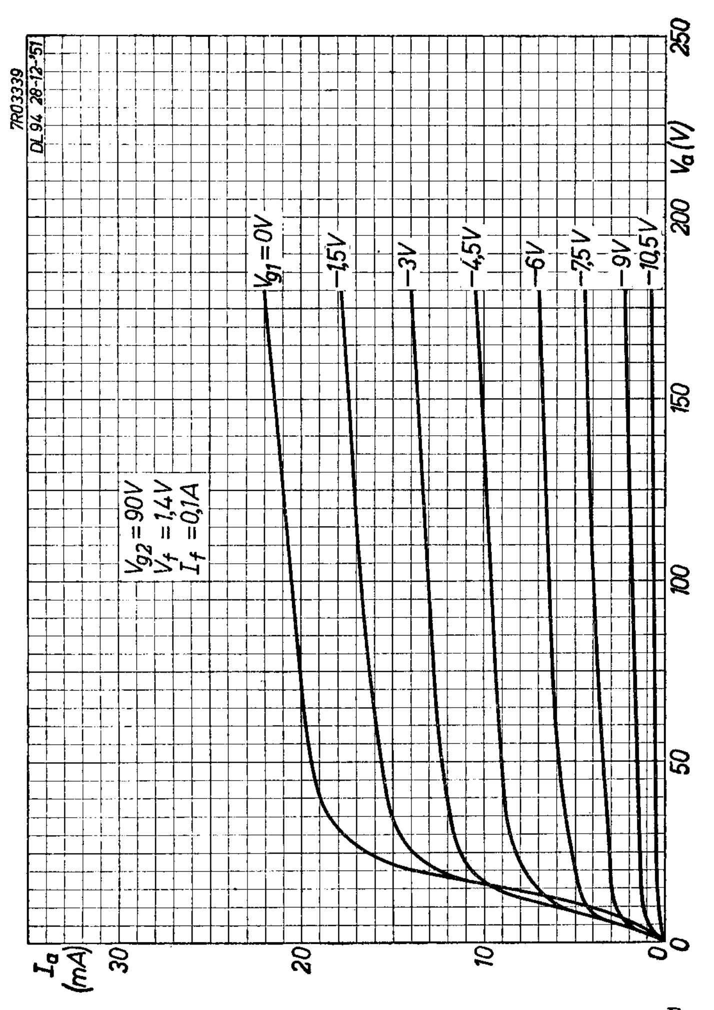
PHILIPS



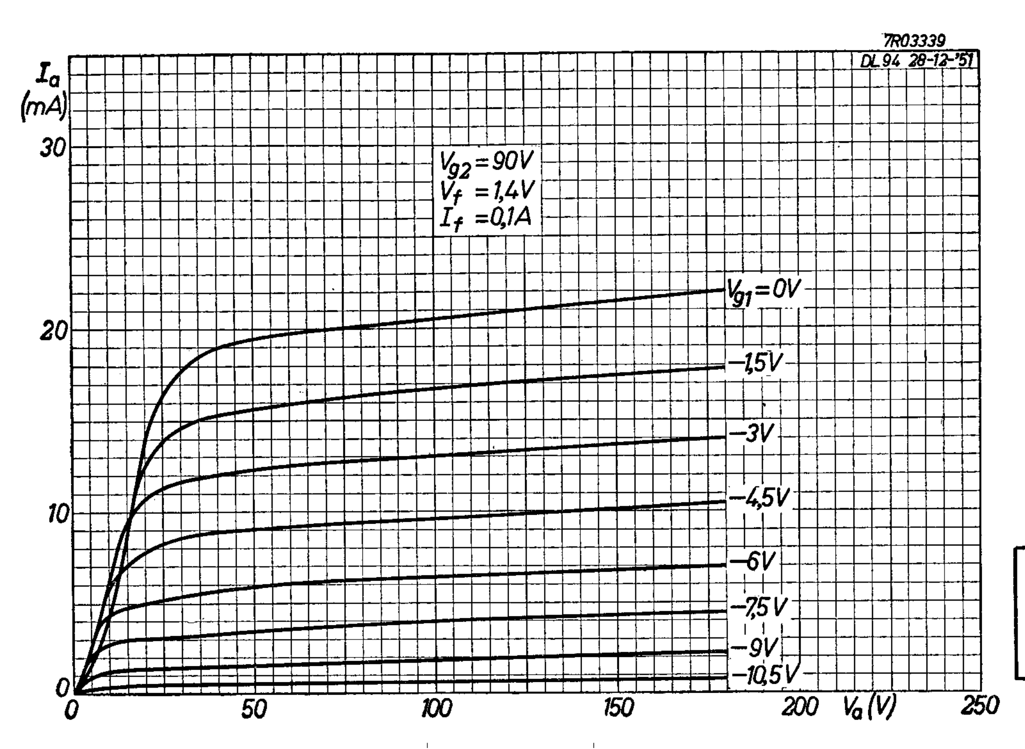
A


7R03340
DL94 28-12-'51
I_a (mA)
15
10
5
0
V_{g2} = 90V
V_f = 1,4V
I_f = 0,05A
V_{g1} = 0V
−1,5V
−3V
−4,5V
−6V
−7,5V
−9V
−10,5V
0
50
100
150
200
V_a (V)
250

DL94 PHILIPS



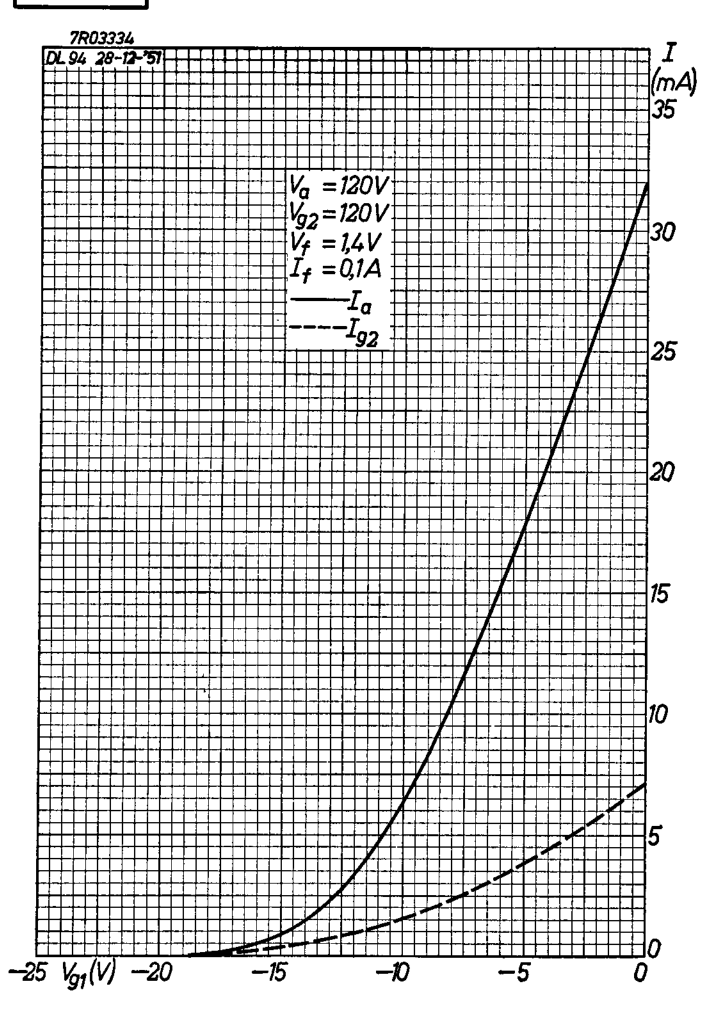
B


7R03339
DL 94 28-12-'51
I_a (mA)
30
20
10
0
V_{g2} = 90V
V_f = 1,4V
I_f = 0,1A
V_{g1} = 0V
-1,5V
-3V
-4,5V
-6V
-7,5V
-9V
-10,5V
0
50
100
150
200
V_a (V)
250

PHILIPS

DL 94

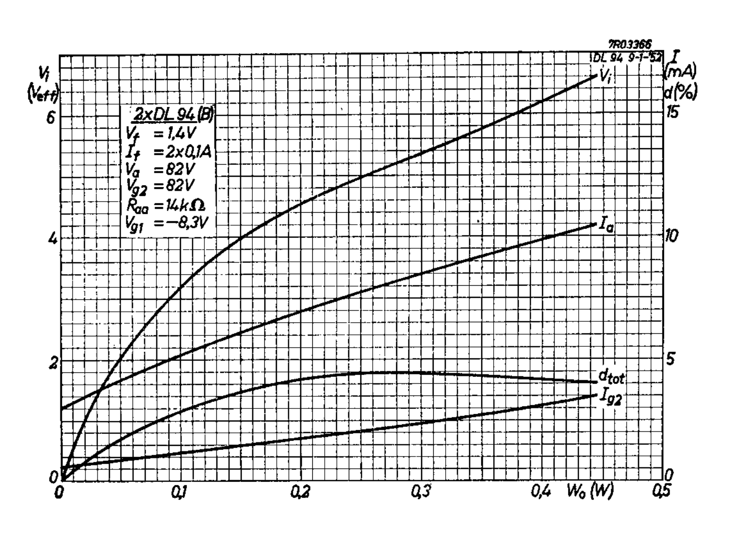
DL 94 PHILIPS

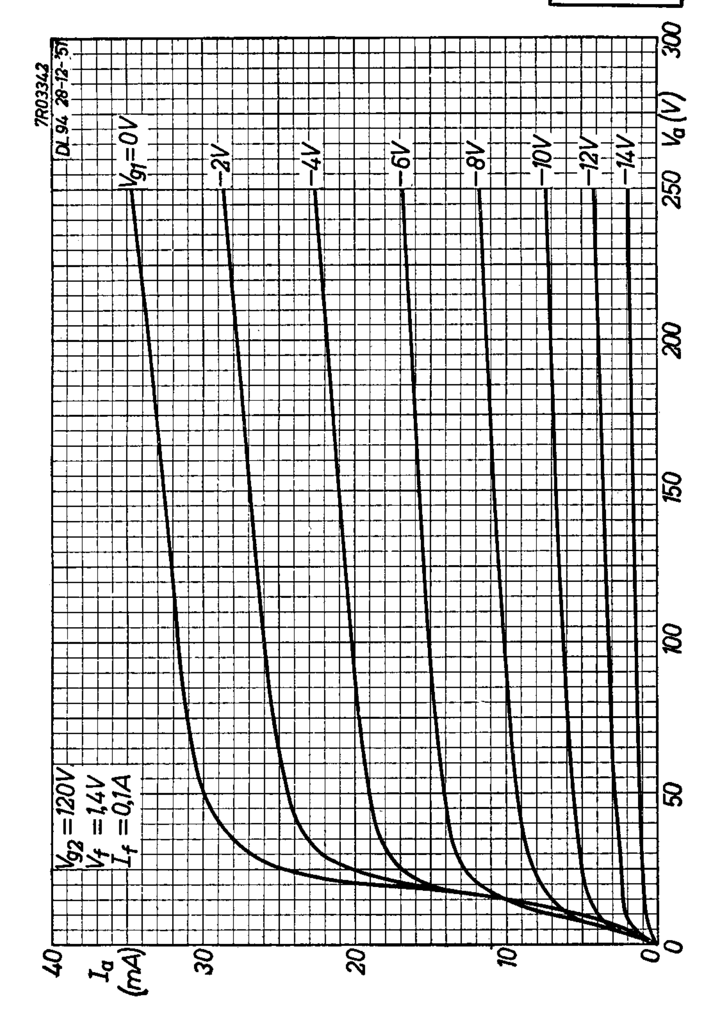


C

DL 94

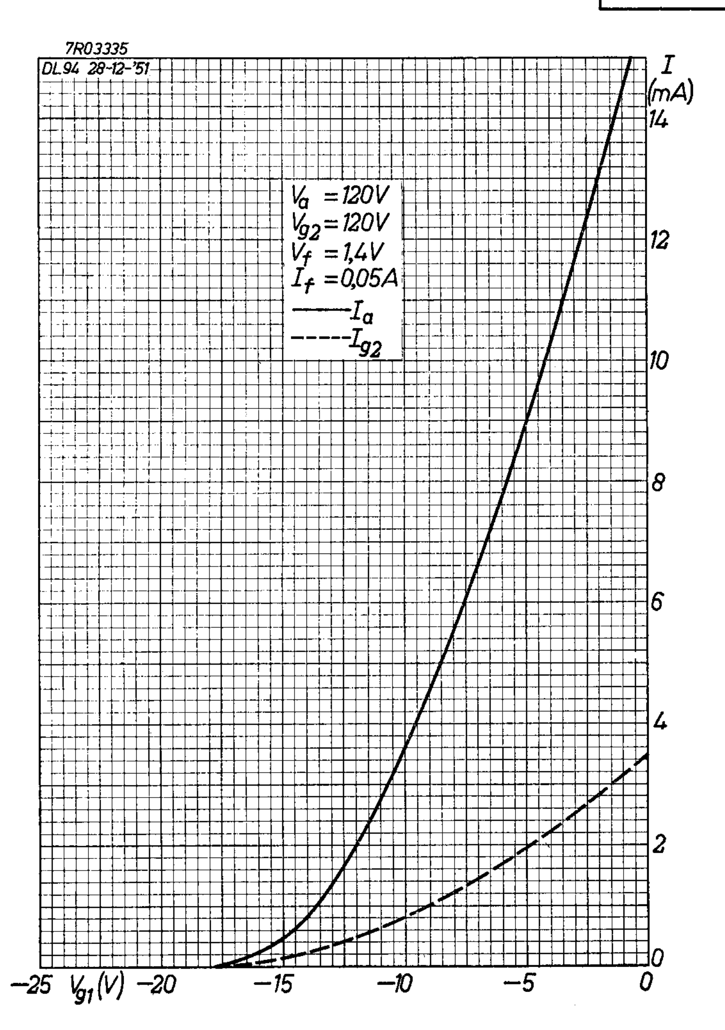
PHILIPS




7R03342
DL 94 28-12-'51
$V_{g1}=0V$
-2V
-4V
-6V
-8V
-10V
-12V
-14V
V_a (V)
0
50
100
150
200
250
300
I_a (mA)
0
10
20
30
40
$V_{g2}=120V$
$V_f=1,4V$
$I_f=0,1A$

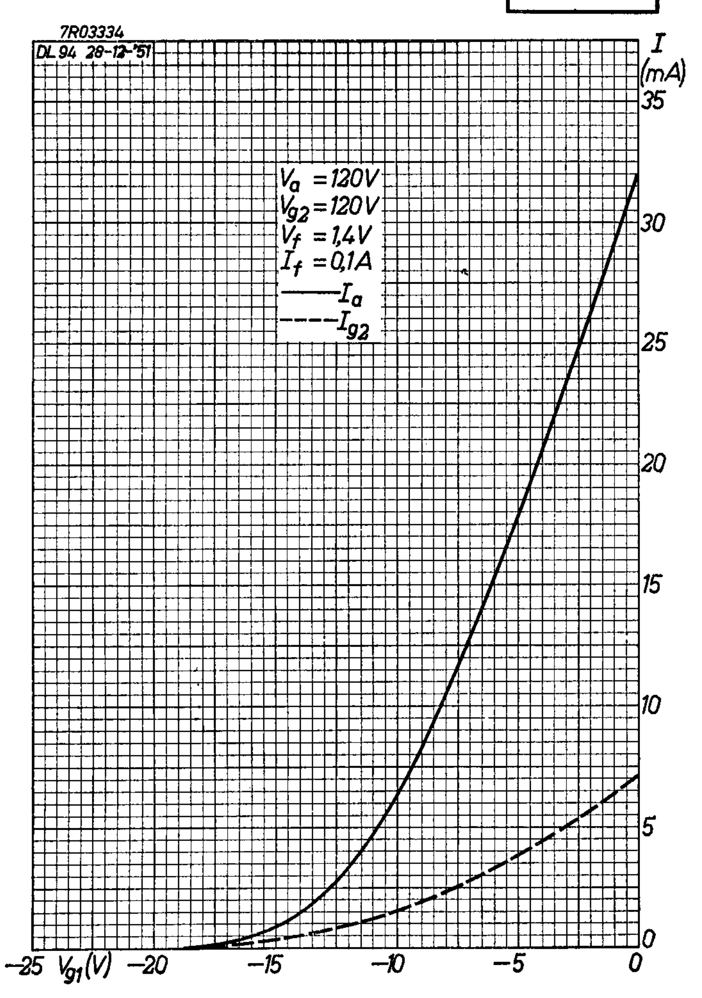
PHILIPS

DL 94



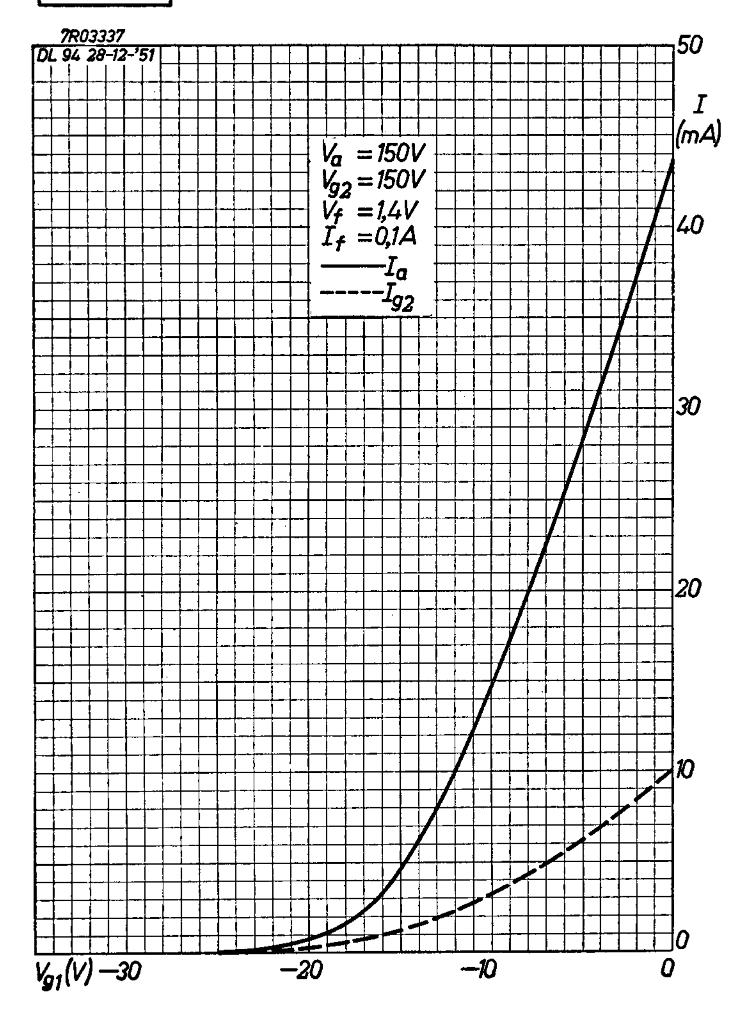
4.4.1952

E

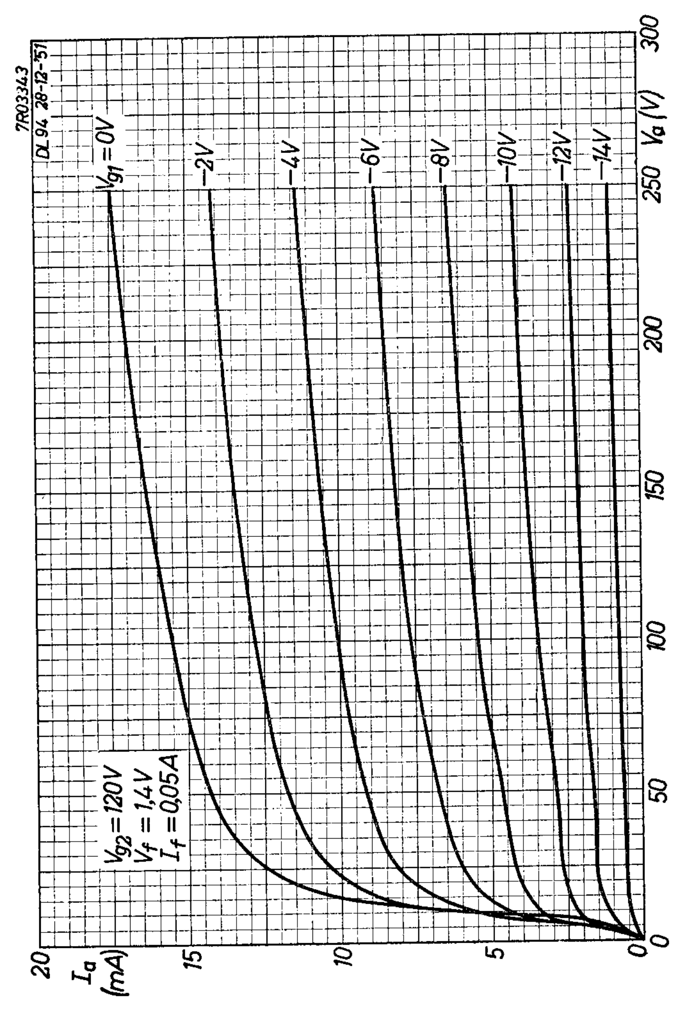

7R03334
DL 94 28-12-'51
I (mA)
35
30
25
20
15
10
5
0
V_a = 120V
V_{g2} = 120V
V_f = 1,4V
I_f = 0,1A
I_a
I_{g2}
−25
V_{g1}(V)
−20
−15
−10
−5
0

DL 94

PHILIPS

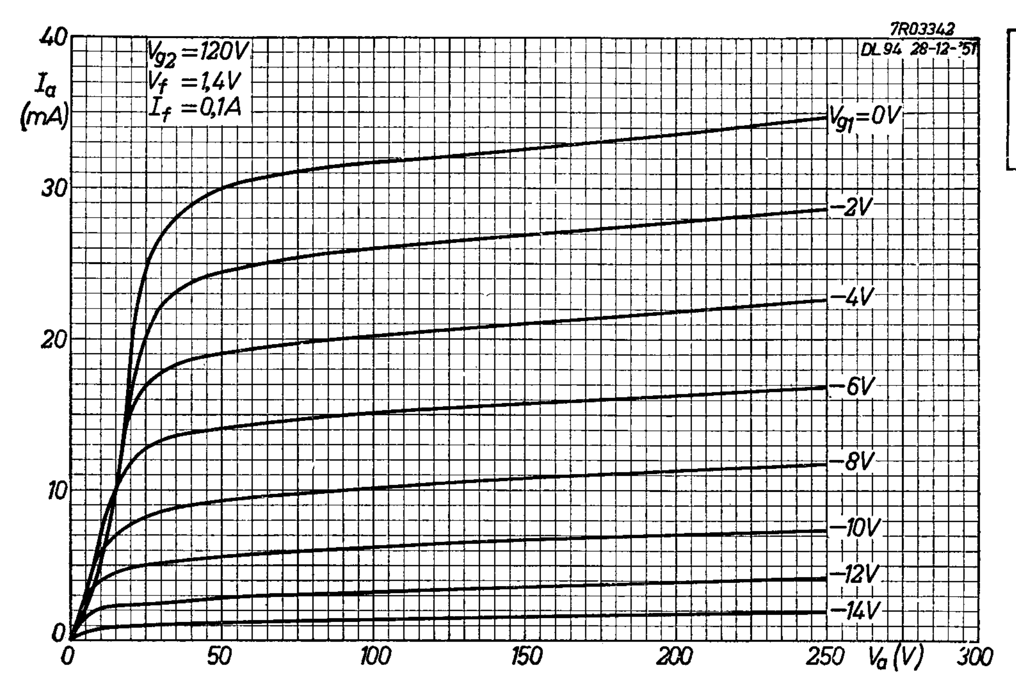


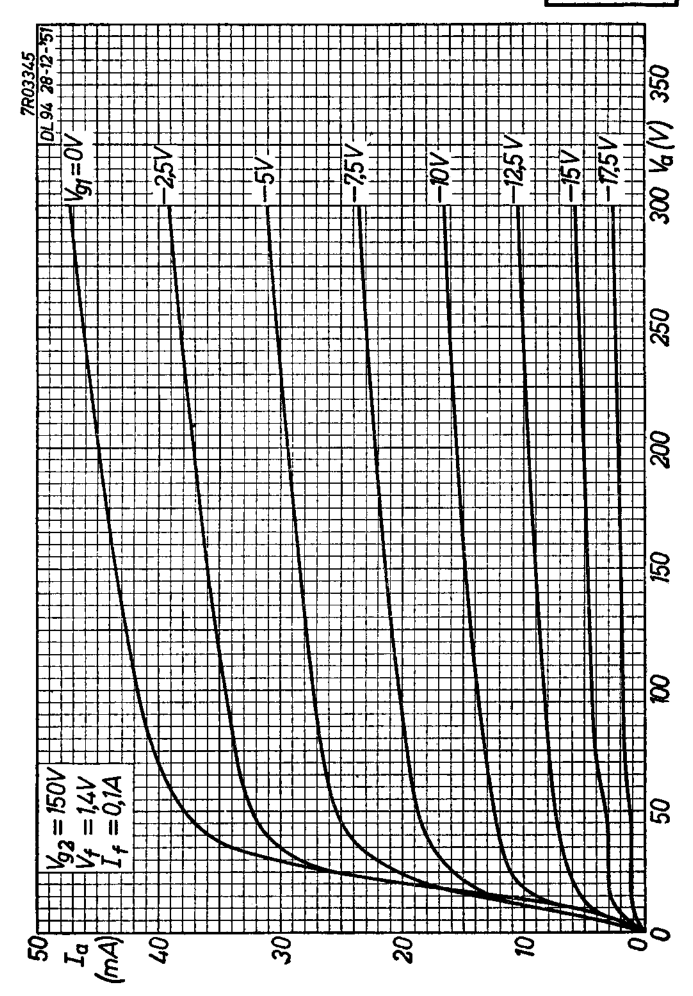
E


7R03343
DL 94 28-12-'51
V_{g1} = 0V
−2V
−4V
−6V
−8V
−10V
−12V
−14V
V_{g2} = 120V
V_f = 1,4V
I_f = 0,05A
I_a (mA)
V_a (V)
20
15
10
5
0
0
50
100
150
200
250
300

F

PHILIPS


7R03342
DL 94 28-12-'51
V_{g2} = 120V
V_f = 1,4V
I_f = 0,1A
I_a (mA)
40
30
20
10
0
V_{g1}=0V
−2V
−4V
−6V
−8V
−10V
−12V
−14V
0
50
100
150
200
250
V_a (V)
300



7R03345
DL 94 28-12-'51
$V_{g2} = 150V$
$V_f = 1,4V$
$I_f = 0,1A$
$V_{g1} = 0V$
−2,5V
−5V
−7,5V
−10V
−12,5V
−15V
−17,5V
I_a (mA)
V_a (V)
0
10
20
30
40
50
100
150
200
250
300
350

PHILIPS DL94

7R03356
DL94 9-1-'52

V_f = 1,4V
I_f = 0,1A
V_a = 113V
V_{g2} = 113V
R_a = 8kΩ
V_{g1} = −7,1V

V_i (V_{eff}); I (mA); d (%); W_o (W)

V_i, d_{tot}, I_a, I_{g2}

7R03362
DL94 9-1-'52

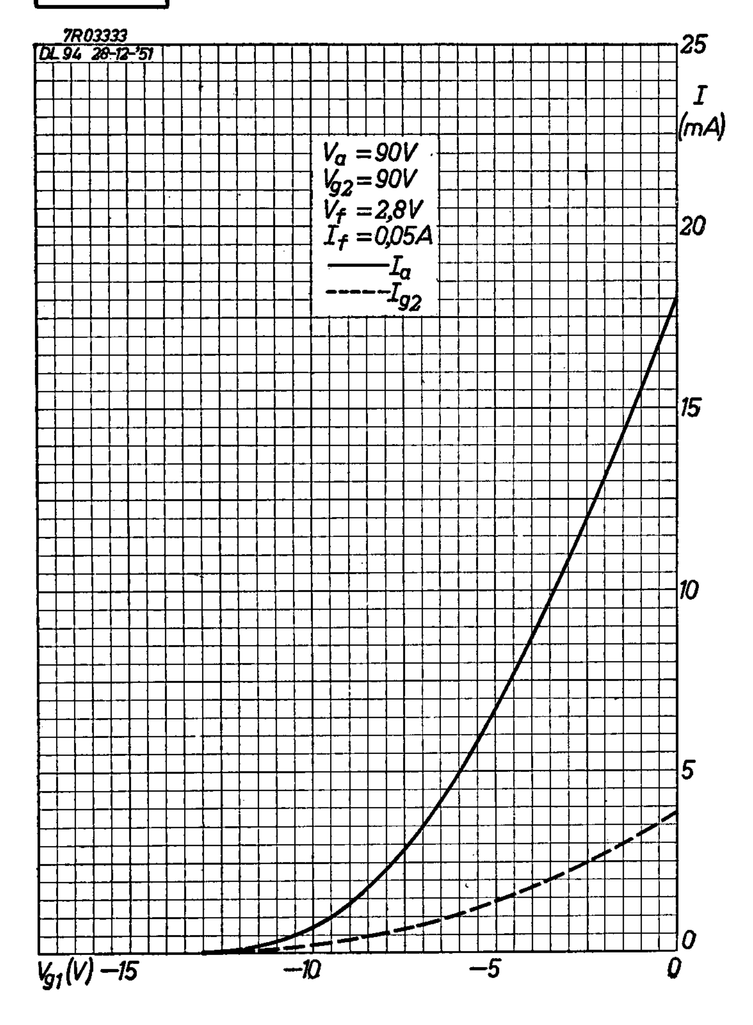
2xDL94(A)
V_f = 1,4V
I_f = 2x0,1A
V_a = 113V
V_{g2} = 113V
R_{aa} = 14kΩ
V_{g1} = −7,1V

V_i (V_{eff}); I (mA); d (%); W_o (W)

V_i, I_a, d_{tot}, I_{g2}

DL 94

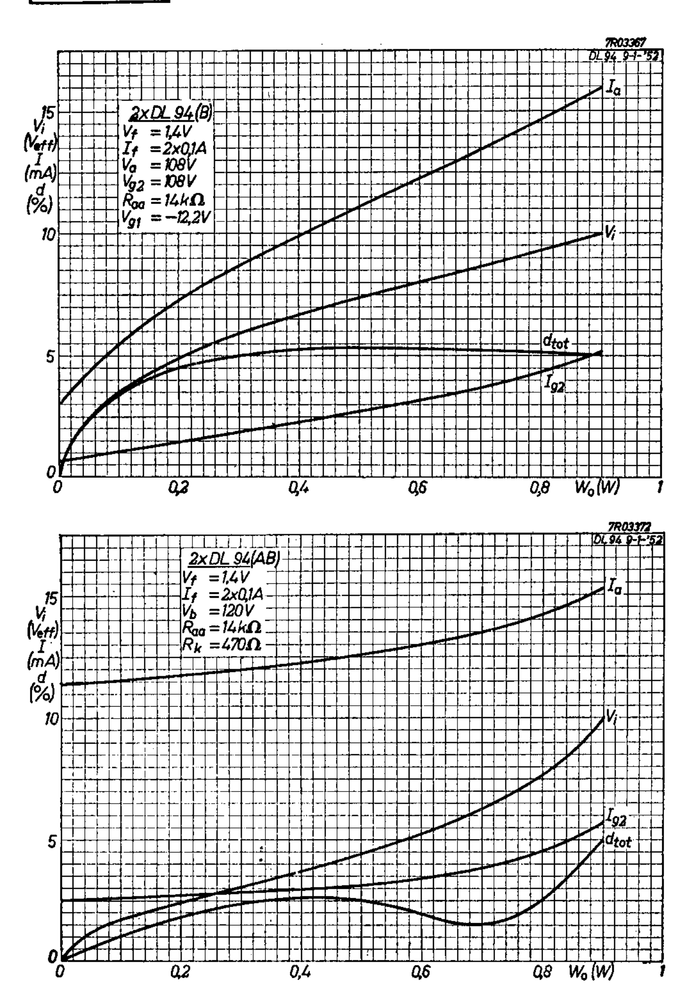
PHILIPS



G

DL 94

PHILIPS





DL 94

7R03341
DL 94 28-12-'51

$V_{g2} = 90V$
$V_f = 2,8V$
$I_f = 0,05A$

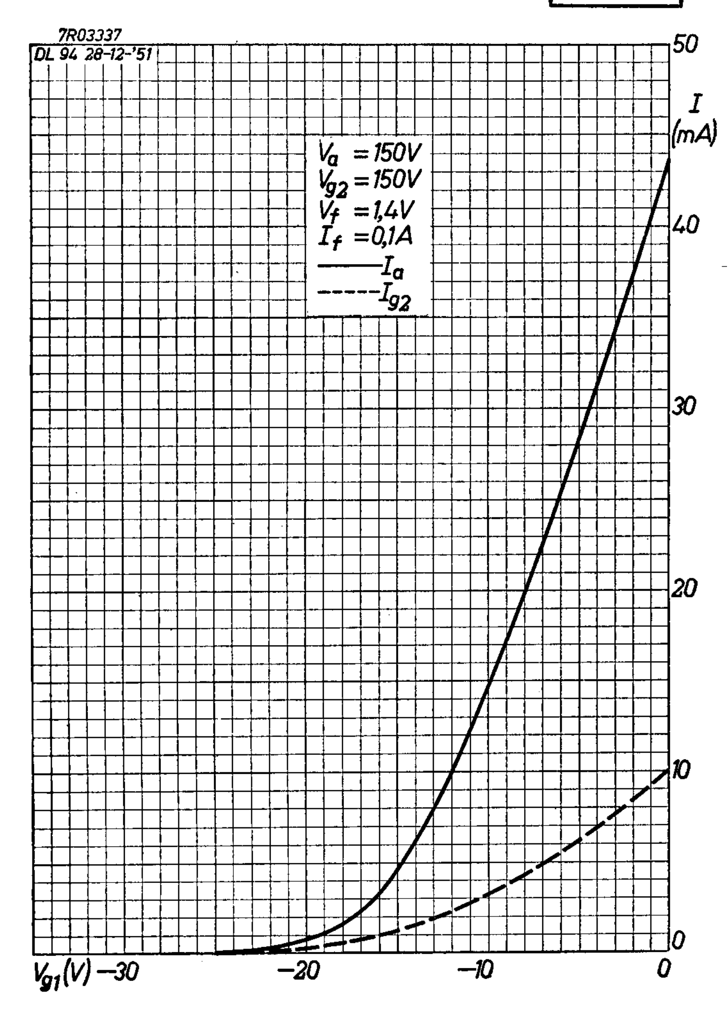
$V_{g1} = 0V$
−1,5V
−3V
−4,5V
−6V
−7,5V
−9V
−10,5V

V_a (V)
0
50
100
150
200
250

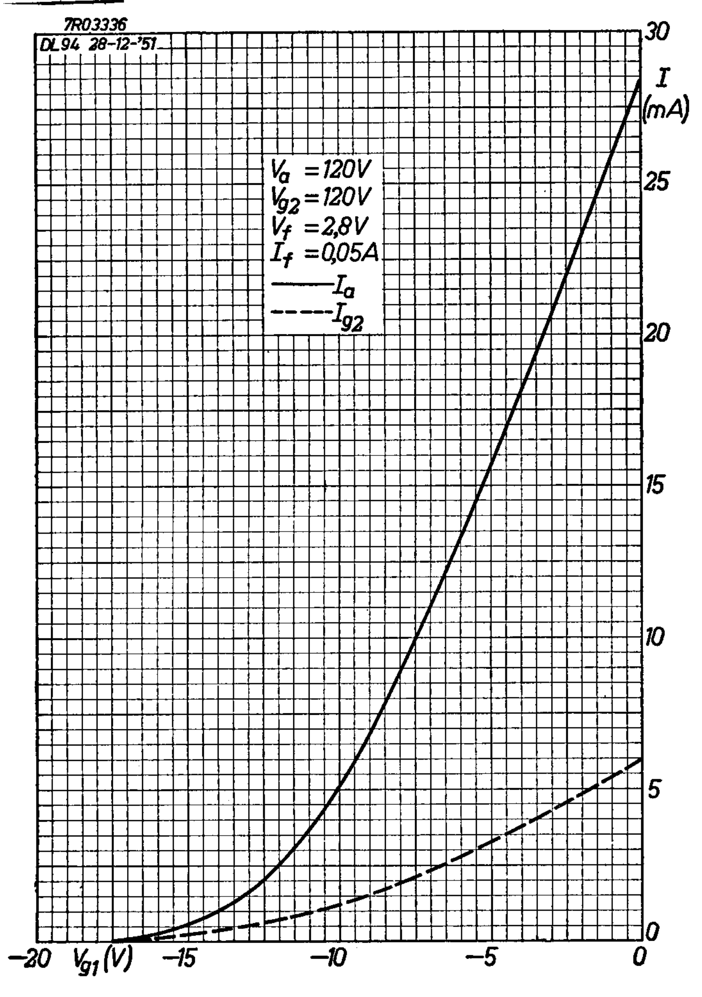
I_a (mA)
0
10
20
30

PHILIPS

DL 94

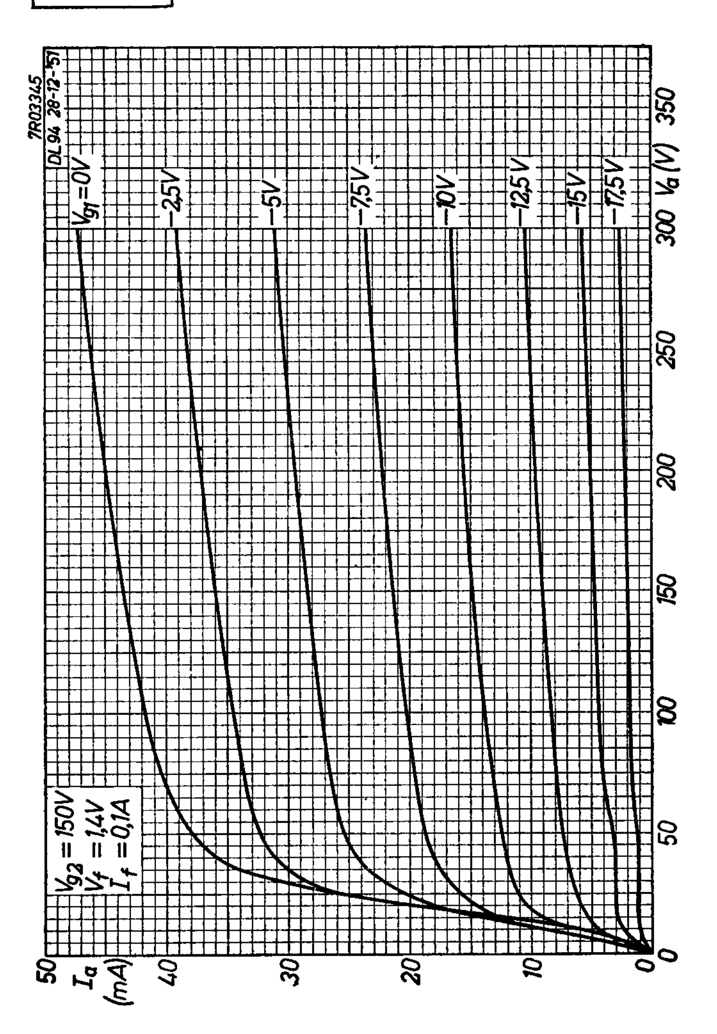


PHILIPS


7R03336
DL94 28-12-'51
V_a = 120V
V_{g2} = 120V
V_f = 2,8V
I_f = 0,05A
I_a
I_{g2}
I (mA)
30
25
20
15
10
5
0
−20
V_{g1} (V)
−15
−10
−5
0

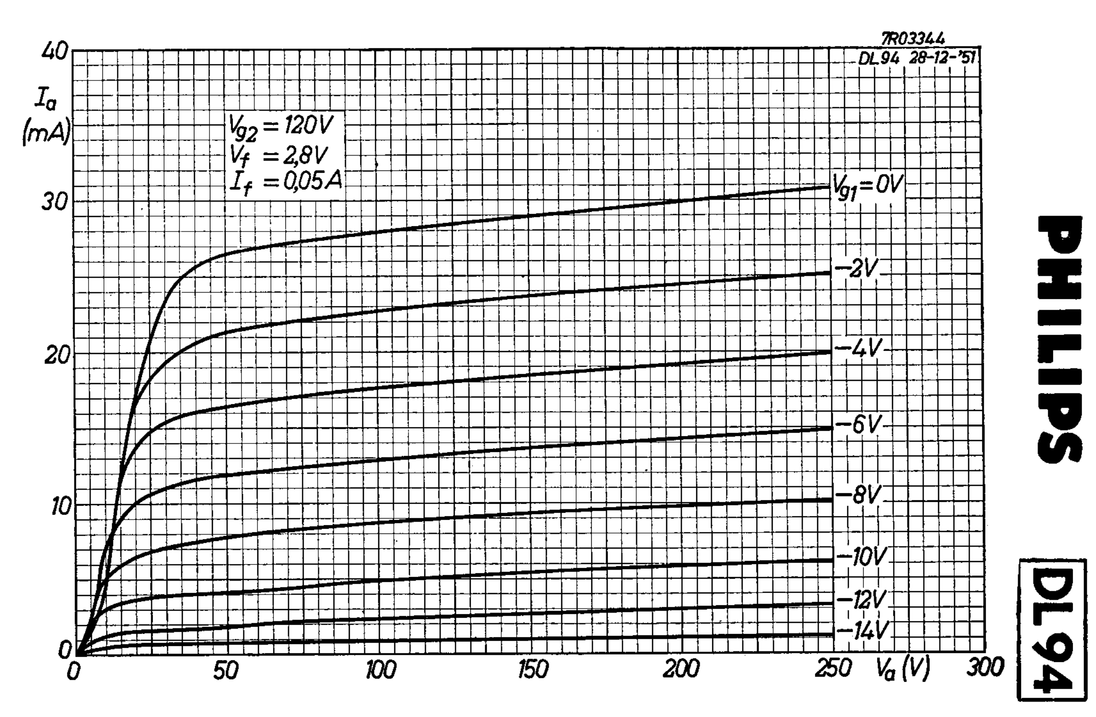
DL 94

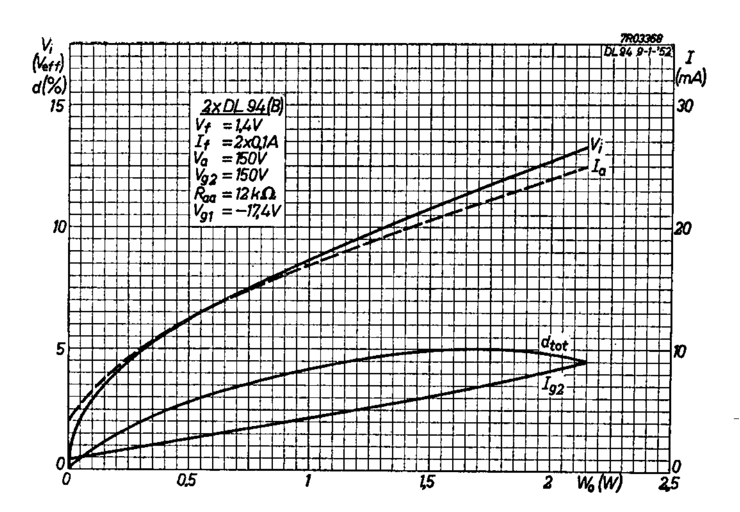
PHILIPS



J

PHILIPS DL94

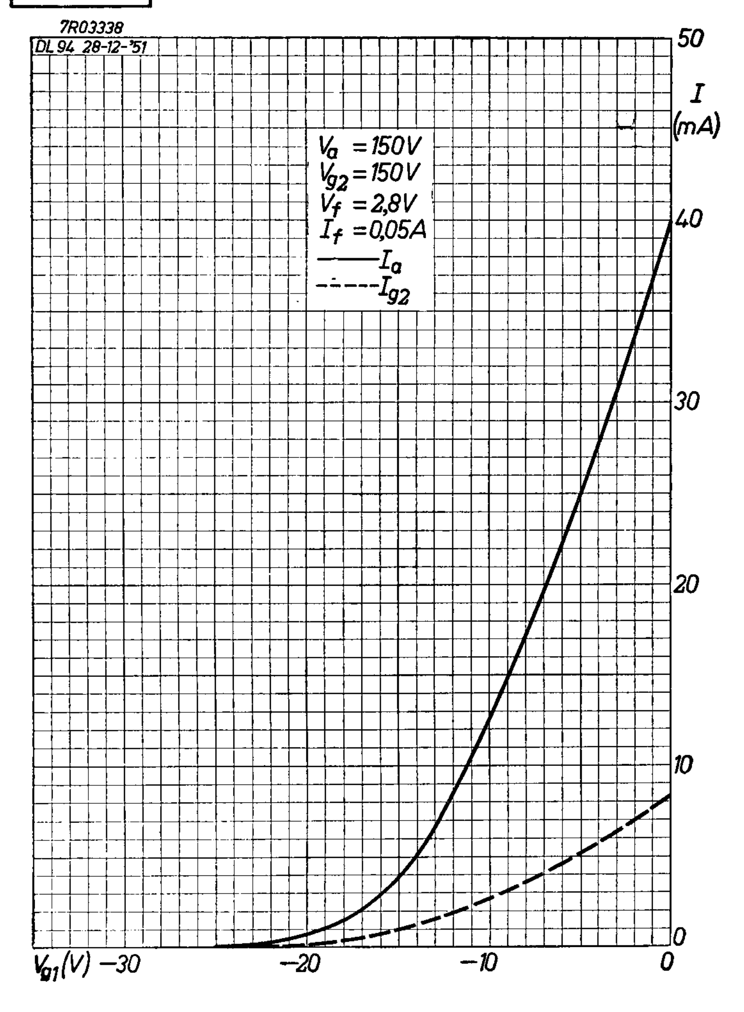




7R03368
DL 94 9-1-'52
Vi
(Veff)
d(%)
I
(mA)
2xDL 94(B)
Vf = 1,4V
If = 2x0,1A
Va = 150V
Vg2 = 150V
Raa = 12kΩ
Vg1 = −17,4V
Vi
Ia
dtot
Ig2
Wo (W)
0
0,5
1
1,5
2
2,5
5
10
15
20
30

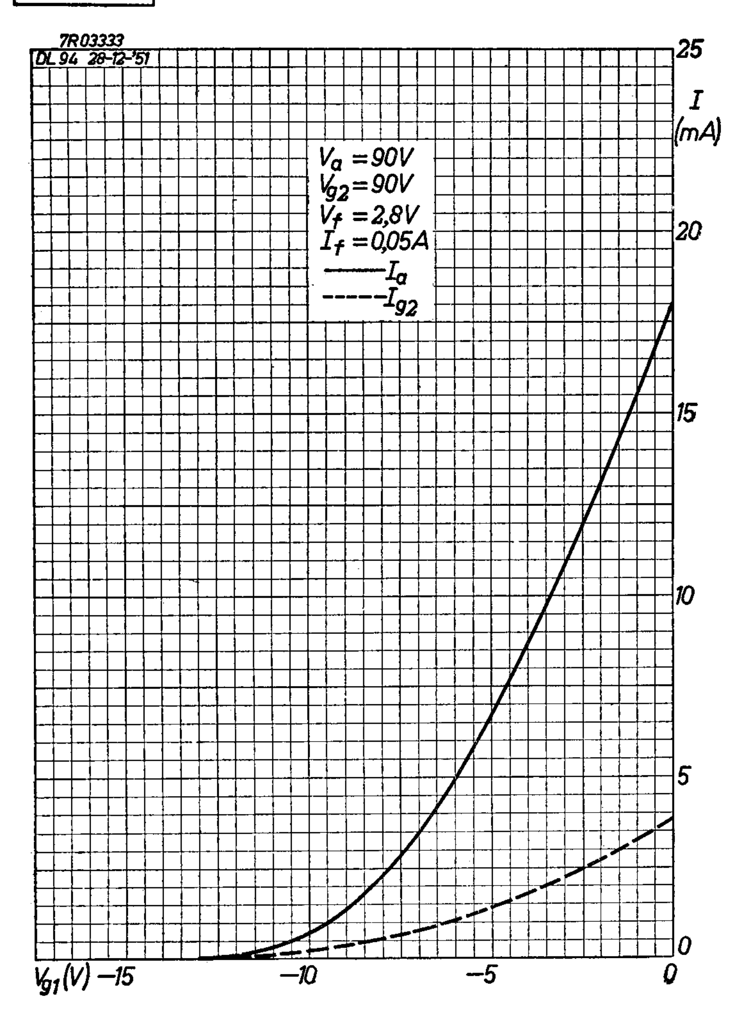
DL 94

PHILIPS



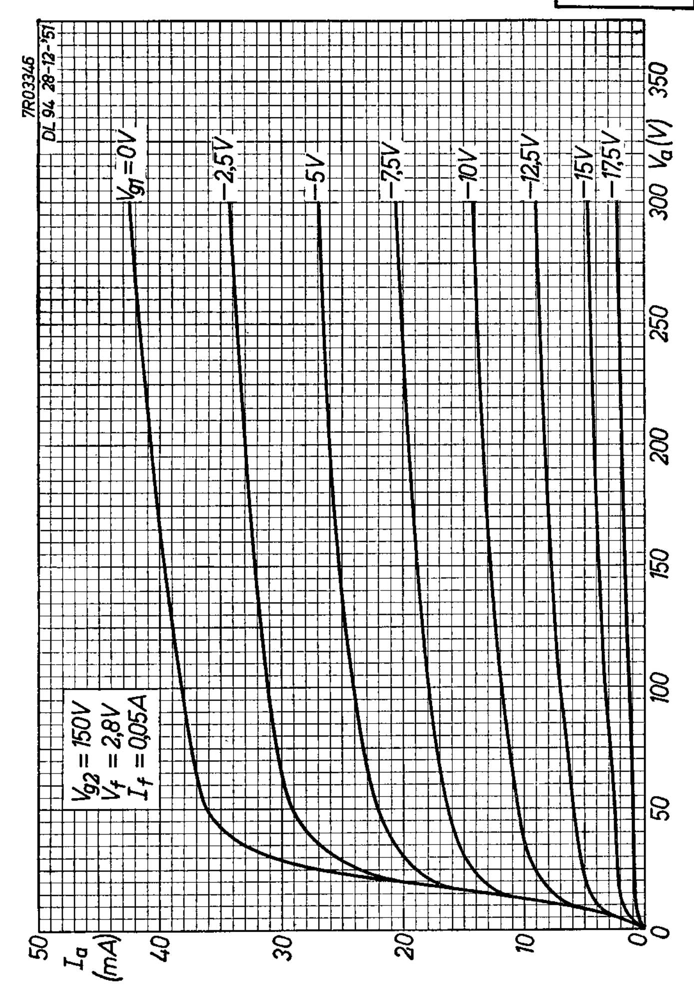
K

DL 94 PHILIPS



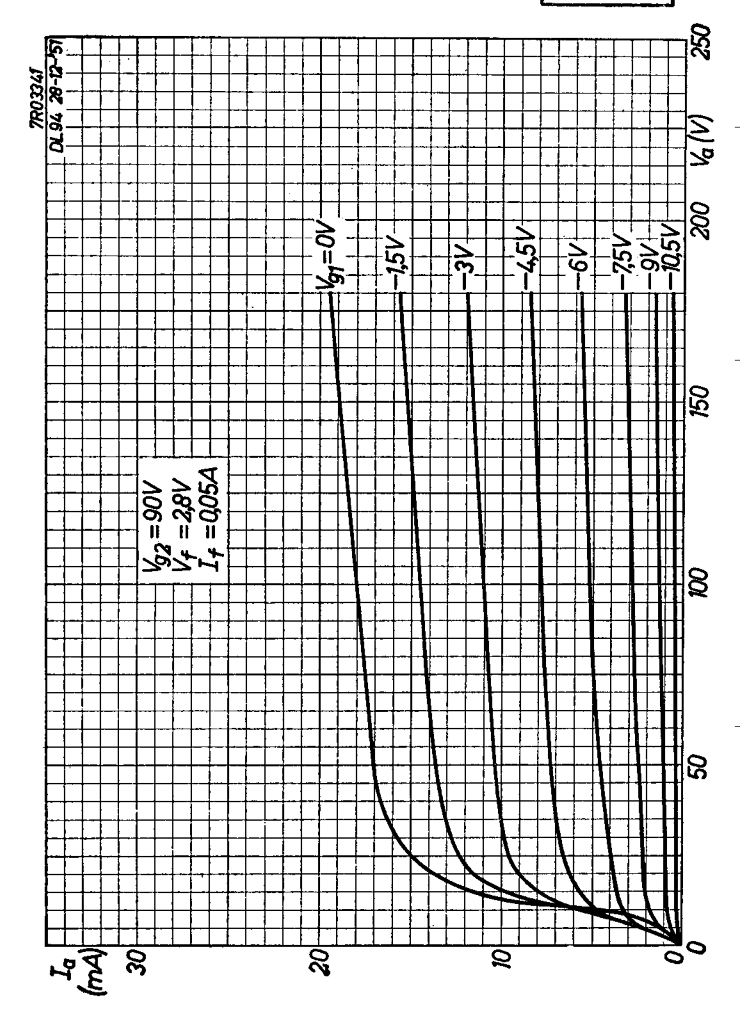
PHILIPS

DL 94

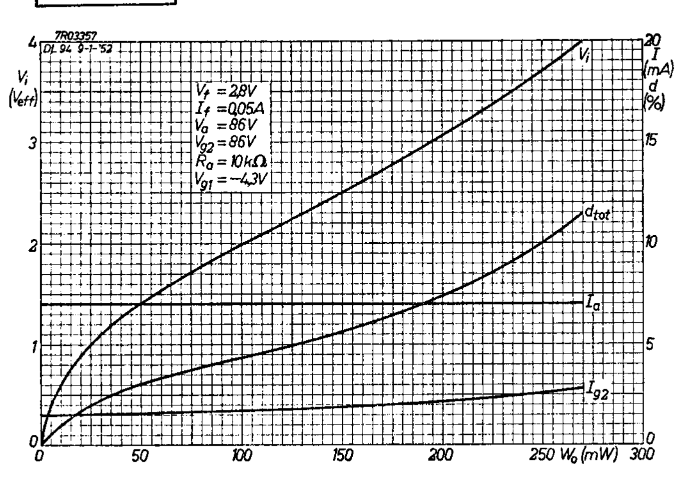


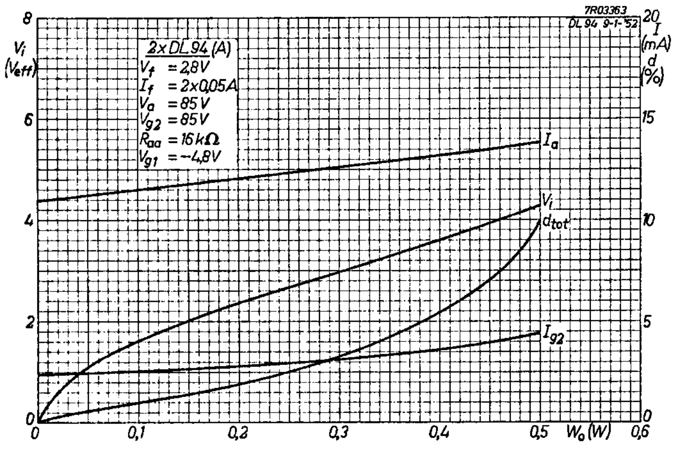
PHILIPS

DL 94



DL 94 PHILIPS







7R03369
DL 94 9-1-'52

V_i (V_{eff})

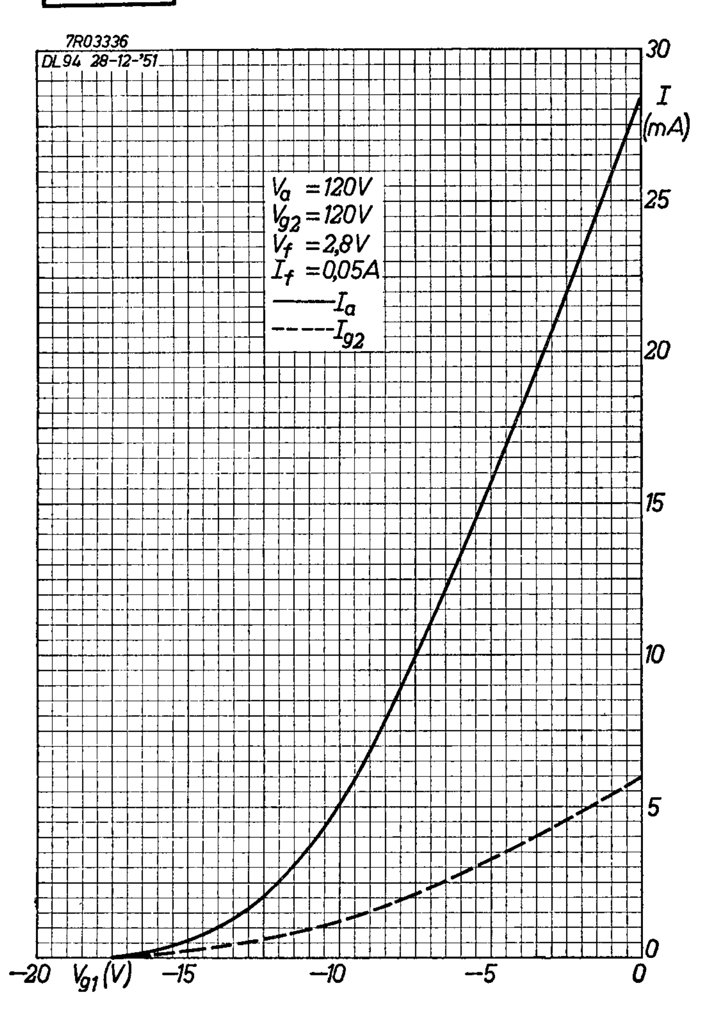
I (mA)
d(%)

2xDL 94 (B)
V_f = 2,8V
I_f = 2x0,05A
V_a = 82V
V_{g2} = 82V
R_{aa} = 14kΩ
V_{g1} = −7,6V

V_i
I_a
d_{tot}
I_{g2}

0 0,1 0,2 0,3 0,4 W_o (W) 0,5

DL 94 PHILIPS



P



DL 94

$V_{g2} = 120V$
$V_f = 2,8V$
$I_f = 0,05A$

$V_{g1} = 0V$, $-2V$, $-4V$, $-6V$, $-8V$, $-10V$, $-12V$, $-14V$

I_a (mA): 0, 10, 20, 30, 40

V_a (V): 0, 50, 100, 150, 200, 250, 300

7R03344
DL 94 28-12-'51



PHILIPS

7R03358
DL 94 9-1-'52

V_f = 2,8V
I_f = 0,05A
V_a = 113V
V_{g2} = 113V
R_a = 10kΩ
V_{g1} = −7,2V

V_i (V_{eff}) 0 2 4 6 8
I (mA) 0 5 10 15 20
d (%) 0 10 20
V_i, I_a, d_{tot}, I_{g2}
0 0,1 0,2 0,3 0,4 0,5 0,6 W_o (W)

7R03364
DL 94 9-1-'52

2 x DL 94 (A)
V_f = 2,8V
I_f = 2 x 0,05A
V_a = 113V
V_{g2} = 113V
R_{aa} = 14kΩ
V_{g1} = −7,2V

V_i (V_{eff}) 0 2 4 6 8
I (mA) d (%) 0 10 20 30 40
V_i, I_a, d_{tot}, I_{g2}
0 0,2 0,4 0,6 0,8 1 1,2 W_o (W)

R

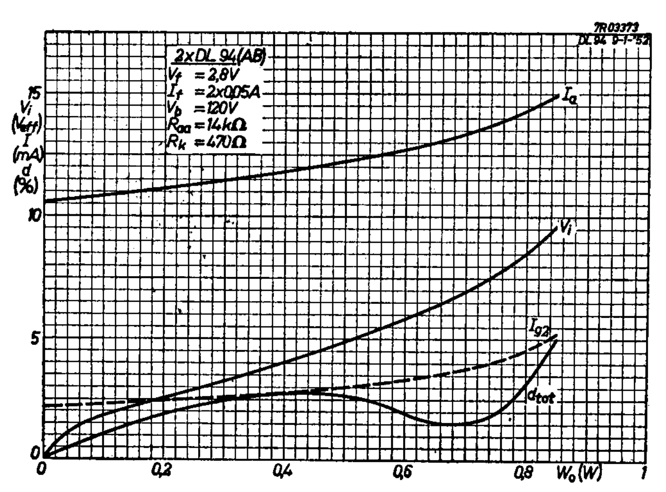
PHILIPS

DL 94

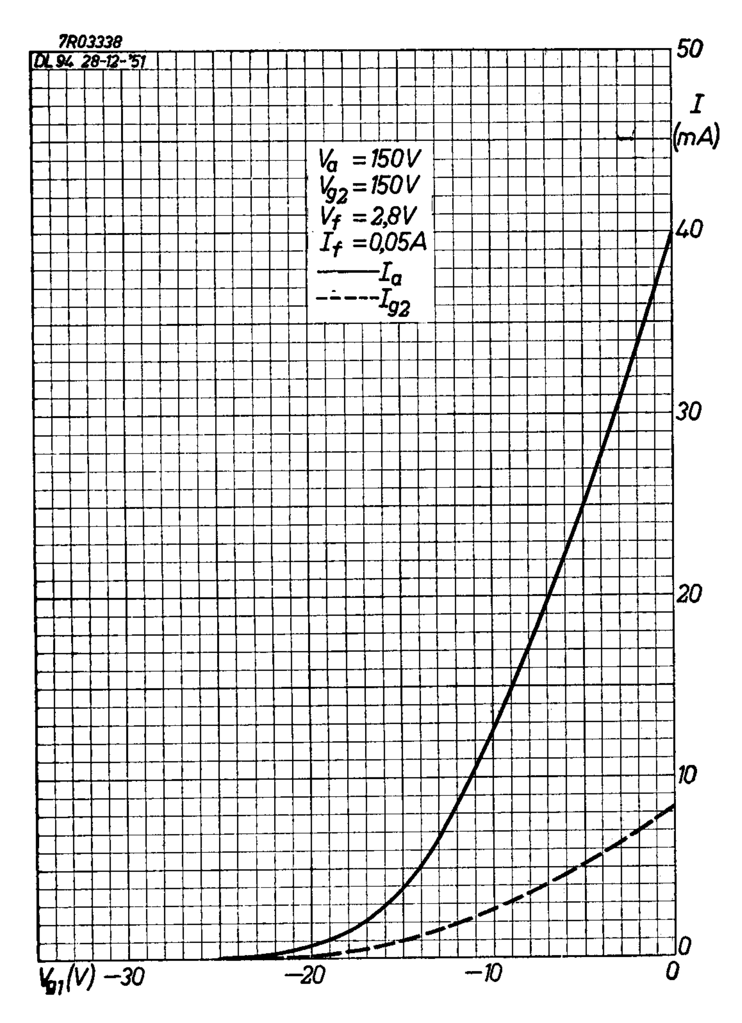
7R03370
DL 94 9-1-'52

2xDL 94(B)
V_f = 2,8V
I_f = 2x0,05A
V_a = 108V
V_{g2} = 108V
R_{aa} = 14kΩ
V_{g1} = −11V

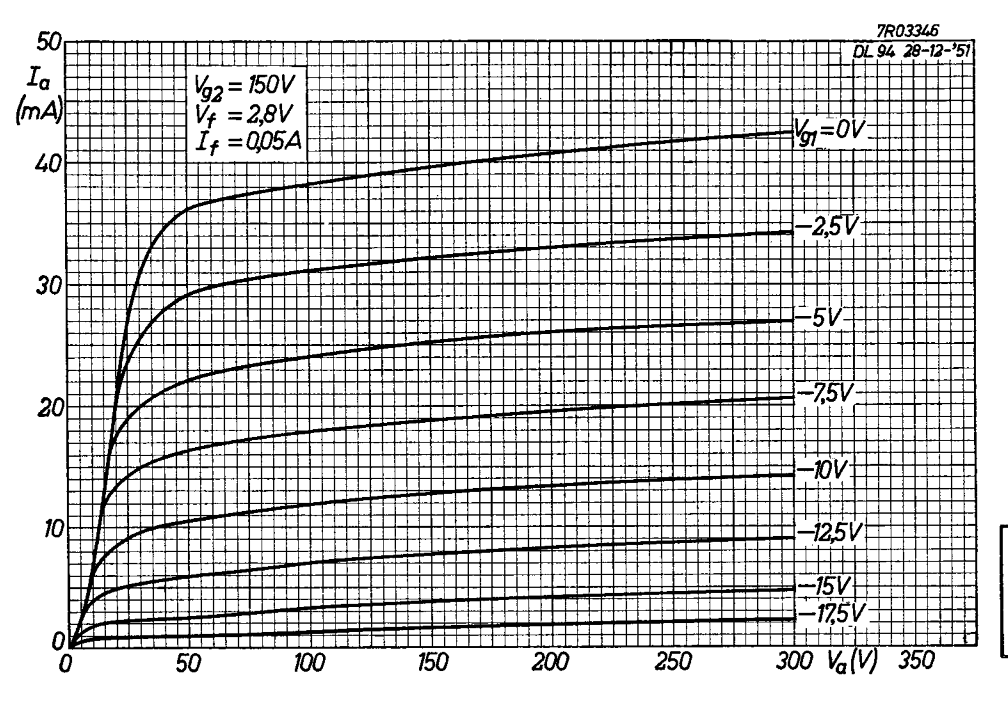
V_i (V_{eff})
I (mA)
d (%)
15
10
5
0
I_a
V_i
I_{g2}
d_{tot}
0
0,2
0,4
0,6
0,8
W_o (W)
1



DL 94 PHILIPS

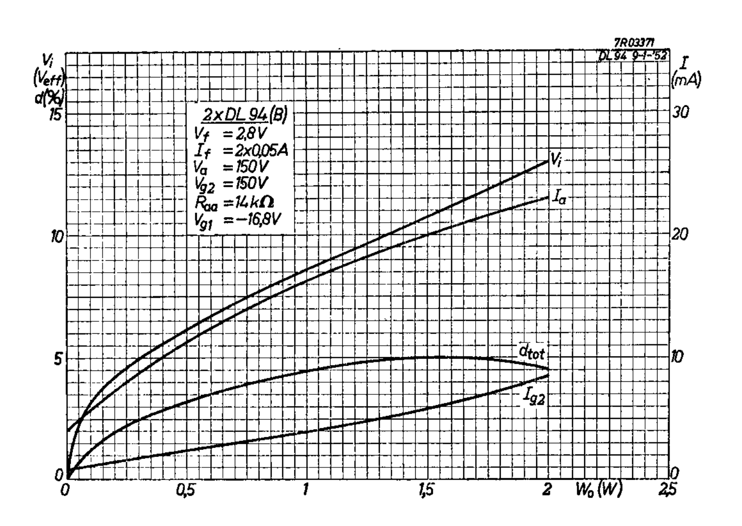


T



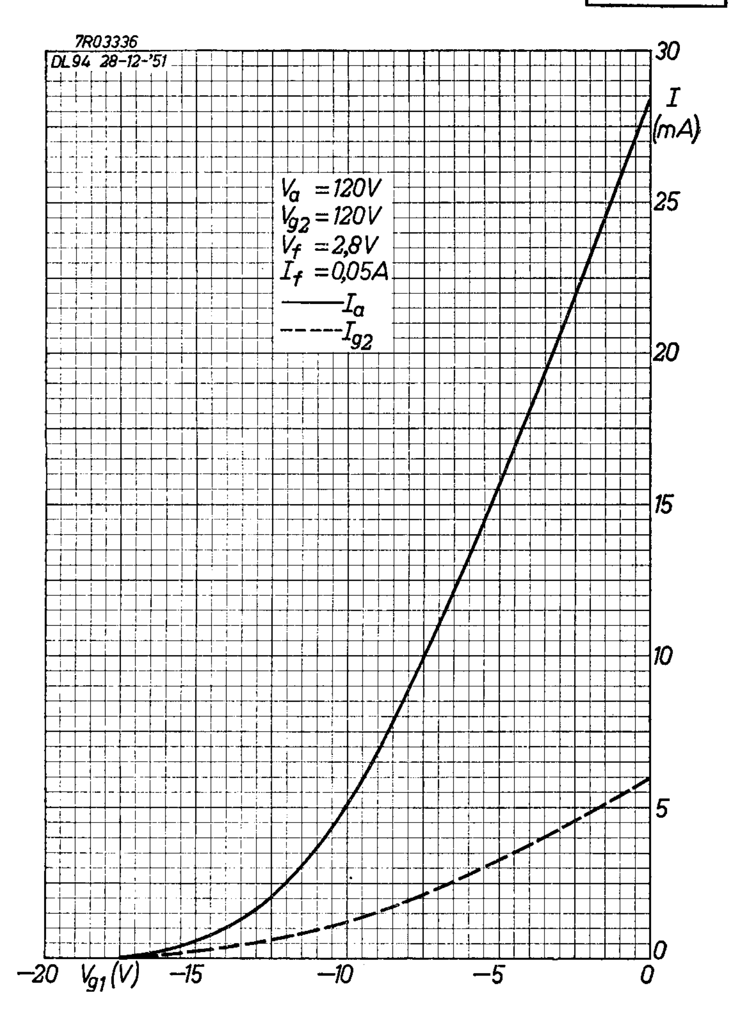
7R03346
DL 94 28-12-'51
V_{g2} = 150V
V_f = 2,8V
I_f = 0,05A
I_a (mA)
50
40
30
20
10
0
V_{g1}=0V
−2,5V
−5V
−7,5V
−10V
−12,5V
−15V
−17,5V
0
50
100
150
200
250
300
V_a(V)
350

DL 94 PHILIPS



PHILIPS

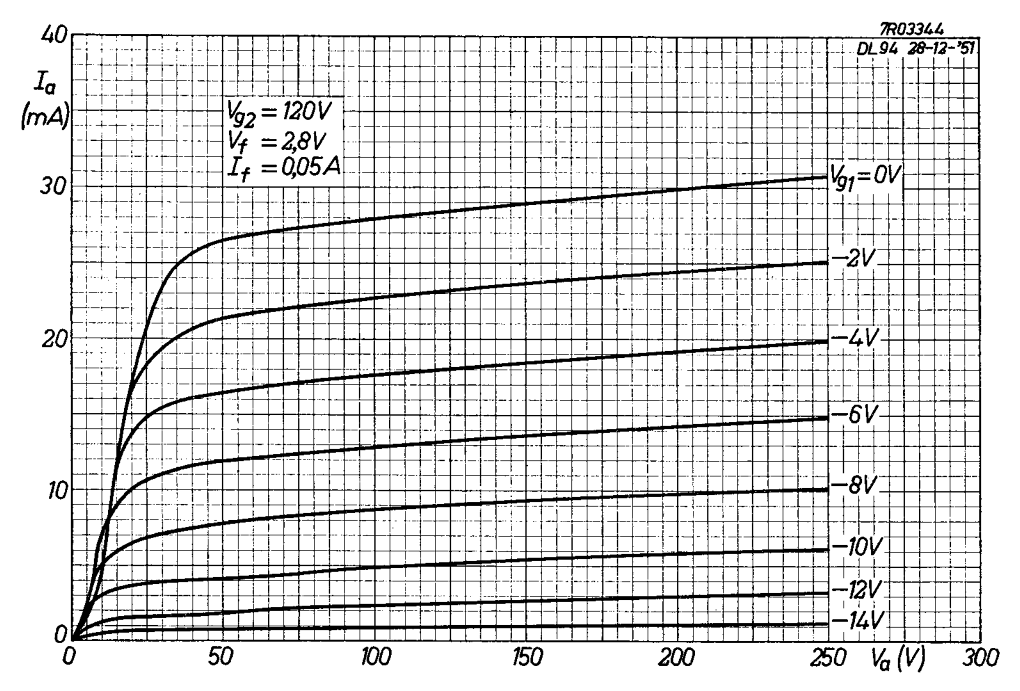
DL94



4.4.1952

W

DL 94 PHILIPS



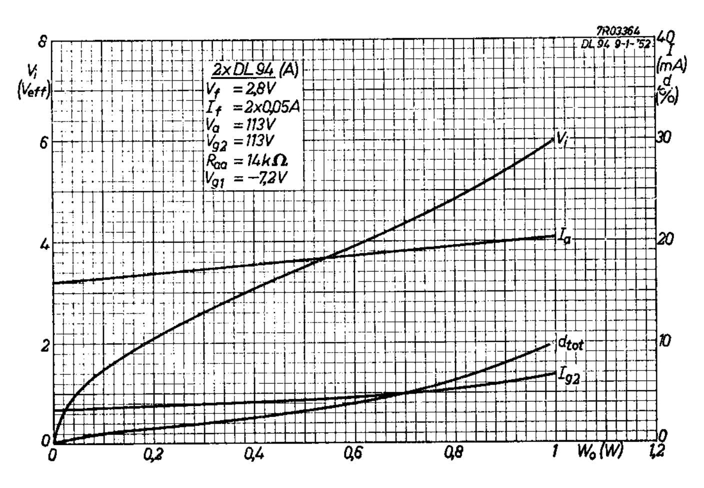
PHILIPS

DL 94

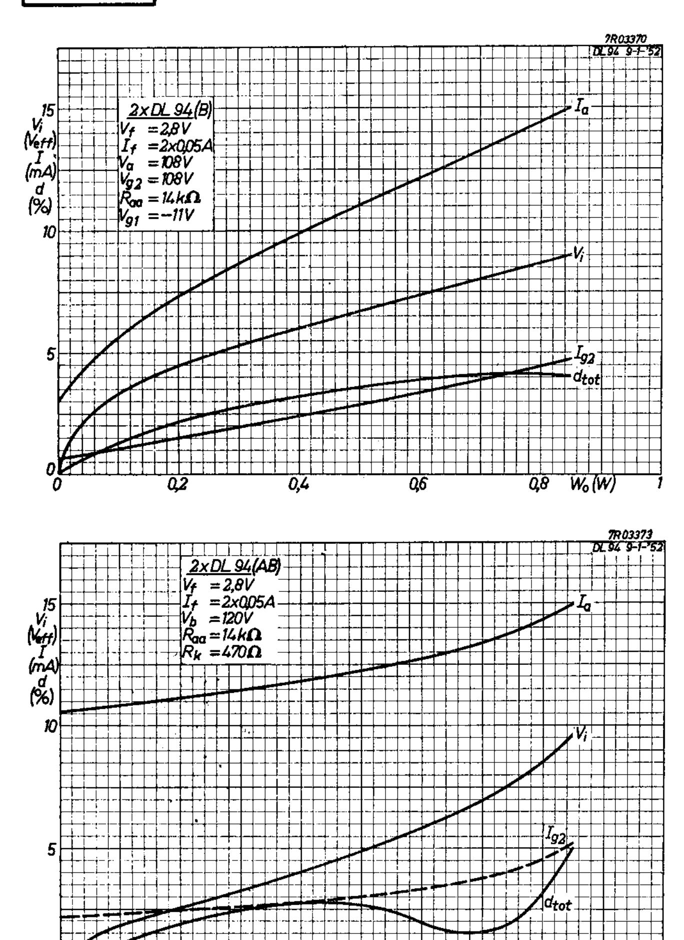
7R03358
DL 94 9-1-'52

$V_f = 2,8V$
$I_f = 0,05A$
$V_a = 113V$
$V_{g2} = 113V$
$R_a = 10k\Omega$
$V_{g1} = -7,2V$

V_i (V_{eff})
I (mA)
d (%)
V_i
I_a
d_{tot}
I_{g2}
W_o (W)
0
0,1
0,2
0,3
0,4
0,5
0,6
2
4
6
8
5
10
15
20
10
20

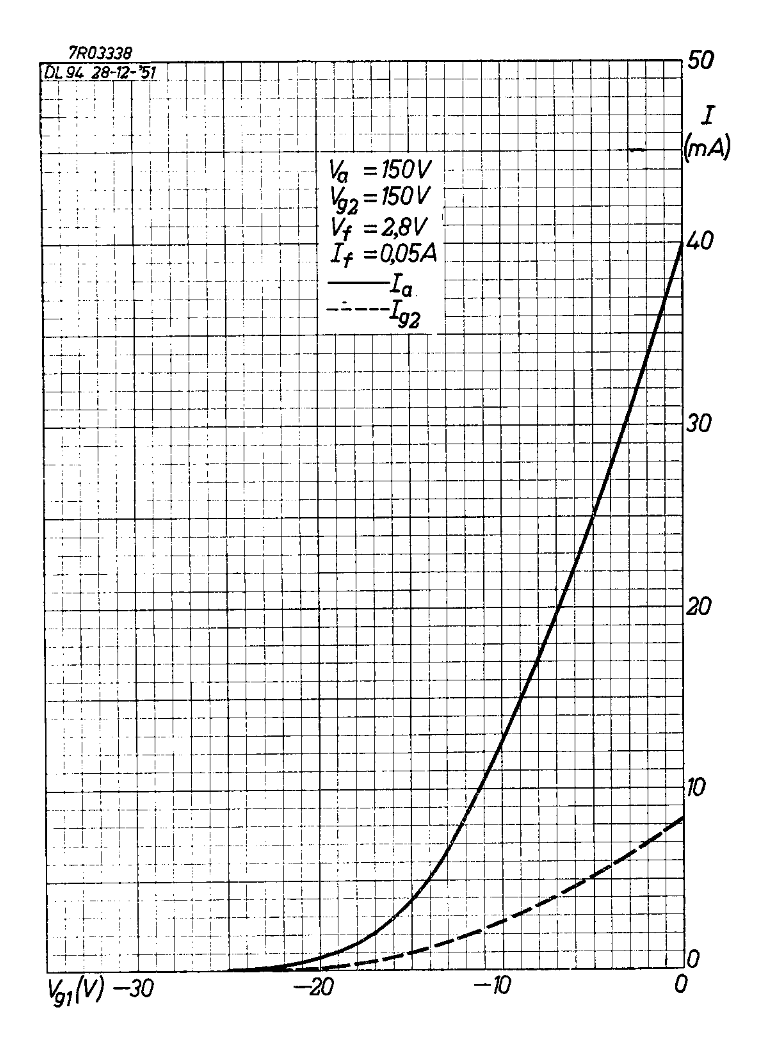


DL 94 PHILIPS



PHILIPS

DL 94

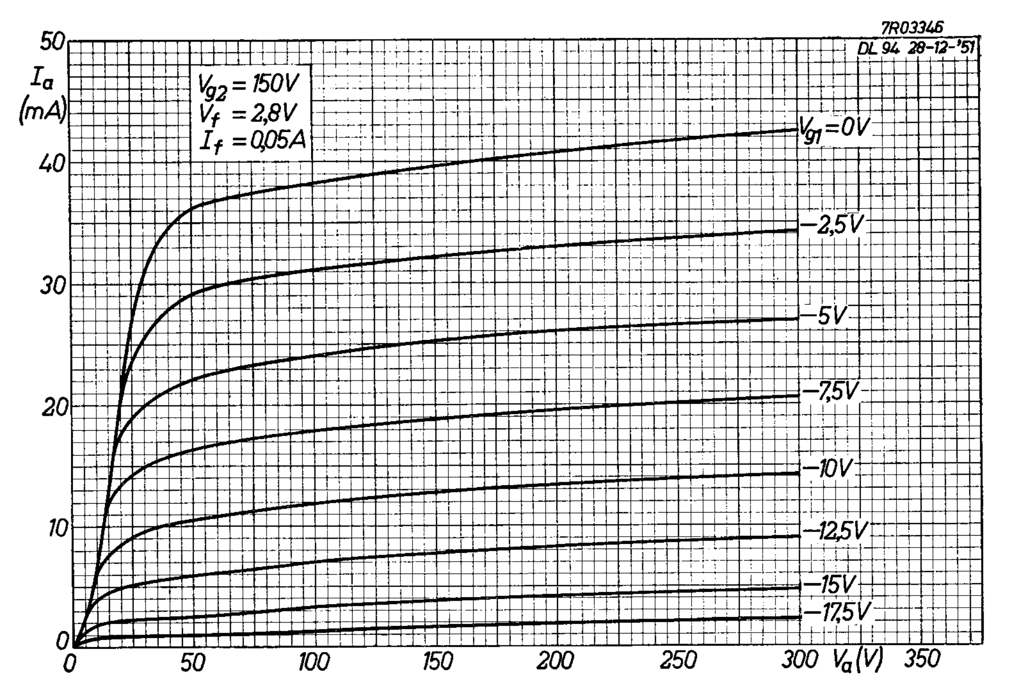


4.4.1952

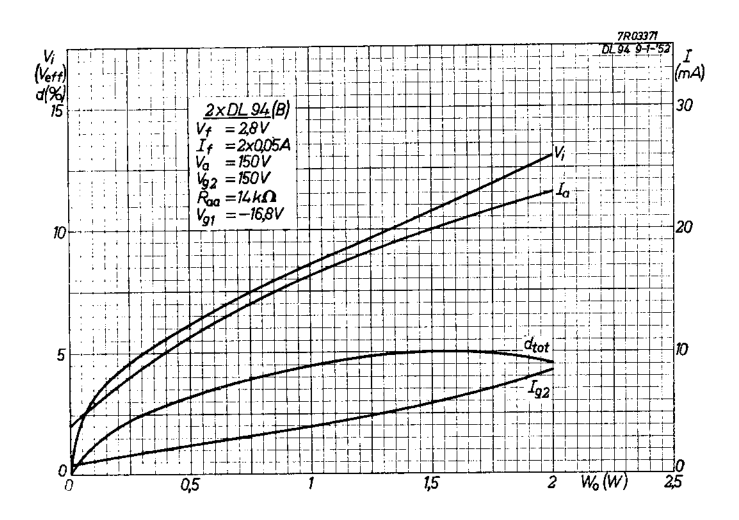
AA

DL 94

PHILIPS



AB


7R03371
DL 94 9-1-'52
Vi
(Veff)
d(%)
I
(mA)
2xDL94(B)
Vf = 2,8V
If = 2x0,05A
Va = 150V
Vg2 = 150V
Raa = 14kΩ
Vg1 = −16,8V
Vi
Ia
dtot
Ig2
0
5
10
15
0
10
20
30
0
0,5
1
1,5
2
2,5
Wo (W)



DL94

page	sheet	date
1	1	1953.05.05
2	1	1960.10.10
3	2	1953.05.05
4	2	1960.10.10
5	3	1952.04.04
6	3	1960.10.10
7	4	1952.04.04
8	5	1952.04.04
9	6	1952.04.04
10	7	1952.04.04
11	8	1952.04.04
12	9	1953.11.11
13	10	1953.11.11
14	A	1952.04.04
15	A	1957.10.10
16	A	1960.10.10
17	B	1952.04.04
18	B	1957.10.10
19	B	1960.10.10

20	C	1957.10.10
21	C	1960.10.10
22	D	1957.10.10
23	D	1960.10.10
24	E	1952.04.04
25	E	1957.10.10
26	E	1960.10.10
27	F	1952.04.04
28	F	1957.10.10
29	F	1960.10.10
30	G	1957.10.10
31	G	1960.10.10
32	H	1957.10.10
33	H	1960.10.10
34	I	1957.10.10
35	I	1960.10.10
36	J	1957.10.10
37	J	1960.10.10
38	K	1957.10.10
39	K	1960.10.10
40	L	1957.10.10
41	L	1960.10.10
42	M	1957.10.10
43	N	1957.10.10
44	O	1957.10.10
45	P	1957.10.10
46	Q	1957.10.10
47	R	1957.10.10
48	S	1957.10.10
49	T	1957.10.10
50	U	1957.10.10
51	V	1957.10.10
52	W	1952.04.04
53	X	1952.04.04

54	Y	1952.04.04
55	Z	1952.04.04
56	AA	1952.04.04
57	AB	1952.04.04
58	AC	1952.04.04
59, 60, 61	FP	1999.08.27